

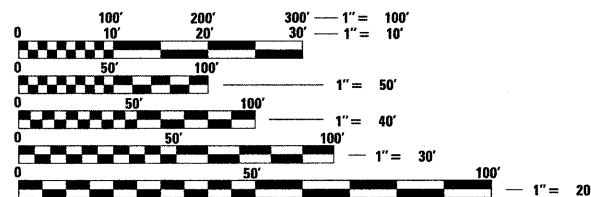
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
270	60B-1-8	MADISON	49	1
		ILLINOIS	CONTRACT NO. 76A92	

### INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 GUARDRAIL REPAIR
- 5 TRAFFIC CONTROL PLAN - TYPICAL SECTIONS
- 6 LANE CLOSURES SCHEDULE
- 7 TRAFFIC CONTROL PLAN - STAGE 1-1
- 8 TRAFFIC CONTROL PLAN - STAGE 1-2
- 9 TRAFFIC CONTROL PLAN - STAGE 1-3
- 10 TRAFFIC CONTROL PLAN - STAGE 2-1
- 11 TRAFFIC CONTROL PLAN - STAGE 2-2
- 12 TRAFFIC CONTROL PLAN - STAGE 2-3
- 13 CHANGEABLE MESSAGE SIGN PLAN
- 14-49 STRUCTURAL PLANS

### HIGHWAY STANDARDS

- 606001-04 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
- 630001-09 STEEL PLATE BEAM GUARDRAIL
- 631033-04 TRAFFIC BARRIER TERMINAL, TYPE 6B
- 631046-04 TRAFFIC BARRIER TERMINAL, TYPE 10
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
- 701400-05 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
- 701401-06 LANE CLOSURE FREEWAY/EXPRESSWAY
- 701411-07 LANE CLOSURE MULTILANE AT ENTRANCE OR EXIST RAMP FOR SPEEDS > 45 MPH
- 701901-01 TRAFFIC CONTROL DEVICES
- 720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- 728001-01 TELESCOPING STEEL SIGN SUPPORT
- 729001-01 APPLICATIONS OF TYPES A&B METAL POSTS (FOR SIGNS & MARKERS)
- 780001-02 TYPICAL PAVEMENT MARKINGS



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROPOSED HIGHWAY PLANS

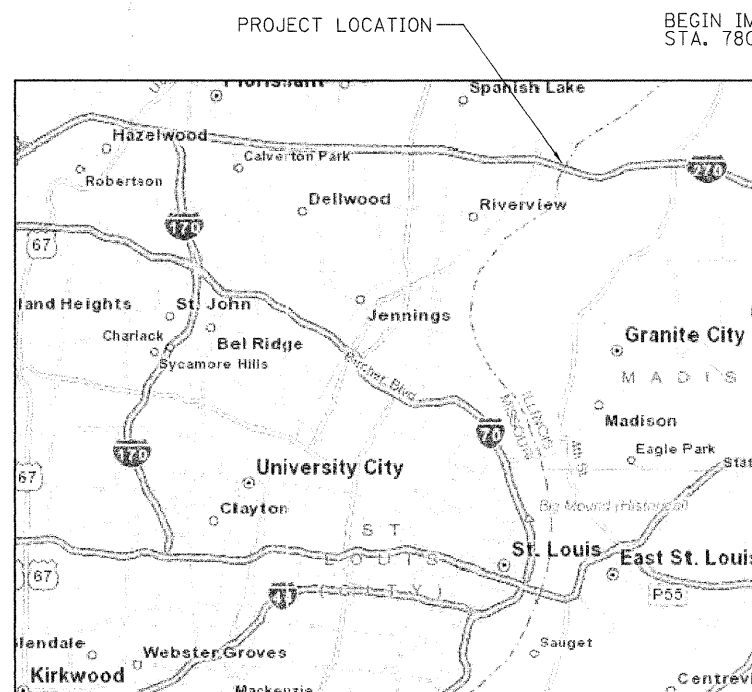
## FAI ROUTE 270 (I-270) SECTION 60 B-1-8

## REHABILITATION OF BRIDGE OVER MISSISSIPPI RIVER MADISON COUNTY

C-98-069-07



LOCATION OF SECTION INDICATED THUS: ———



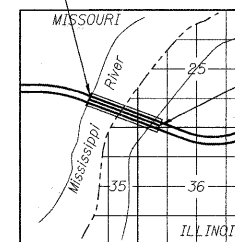
**LOCATION MAP**

(NOT TO SCALE)

GROSS LENGTH = 5411 FT. = 1.02 MILES

NET LENGTH = 5411 FT. = 1.02 MILES

BEGIN IMPROVEMENTS  
STA. 780+00.25



END IMPROVEMENTS  
STA. 834+11.25

### LOCATION SKETCH



*Ricardo A. Mantay Jr.*  
SIGNATURE

3/23/2011  
DATE

LICENSE EXPIRES 11-30-2011

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 24 20 11

Mary C. Jame  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 13 20 11

Scott E. Stitt P.E. Ia  
ACTING ENGINEER OF DESIGN AND ENVIRONMENT

May 13 20 11

Christina M. Rosella  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PROJECT ENGINEER - PATTI LeBEAU, P.E. (618) 346-3179

PROJECT MANAGER - ART MUEHLFELD (618) 346-3209

CONTRACT NO. 76A92



**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314-434-2900

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

**GENERAL NOTES**

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF SIXTEEN SANDBAGS.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITIONS AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS INCLUDED IN THESE PLANS

THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENT PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION, BUT SHALL BE CONSIDERED AS INCLUDED IN THE COST OF THE ASSOCIATED PAY ITEMS.

ELEVATIONS, DIMENSIONS, AND DETAILS INCLUDED IN THE PLANS ARE SUBJECT TO CONSTRUCTION VARIATIONS.

ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. FOR NON-MEMBERS, CONTACT THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

- AmerenIP (ELECTRIC TRANSMISSION)
- AT&T Illinois (COMMUNICATIONS)
- Buckeye Partners, L.P. ( PIPELINE)
- Illinois American Water Company (WATER)
- Laclede Pipeline Company (PIPELINE)

MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY \*. NON-J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOURTEEN (14) DAYS PRIOR TO LANE CLOSURES. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE LOCAL MoDOT MAINTENANCE TEAM AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING AND SETTING UP TRAFFIC CONTROL DEVICES.

FILE NAME =	USER NAME = #USER#	DESIGNED - TMB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES I-270 OVER MISSISSIPPI RIVER</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		CHECKED - TSB	REVISED -			270	60B-I-8	MADISON	49	2	
PLOT SCALE = #SCALE#		DRAWN - TMB	REVISED -			SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.					
PLOT DATE = 3/23/2011		CHECKED - RAM	REVISED -			ILLINOIS FED. AID PROJECT CONTRACT NO. 76A92					

F. A. I. ROUTE 270

50% ILLINOIS  
50% MISSOURI

SUMMARY OF QUANTITIES

URBAN

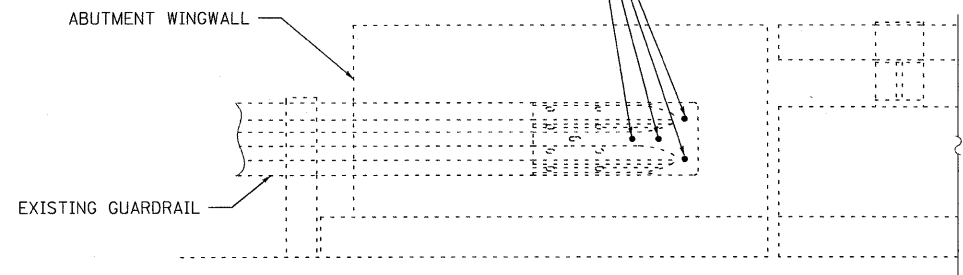
CONSTRUCTION  
TYPE CODE

CODE NO.	ITEM	UNIT	TOTAL	0014
28100811	STONE DUMPED RIPRAP, CLASS A6	TON	11,200	11,200
50102400	CONCRETE REMOVAL	CU YD	3	3
50104000	BRIDGE RAIL REMOVAL	FOOT	5,409	5,409
50300255	CONCRETE SUPERSTRUCTURE	CU YD	3	3
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	<b>366,400</b>	<b>366,400</b>
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	245	245
50900200	STEEL RAILING, TYPE 2399	FOOT	10,818	10,818
58700300	CONCRETE SEALER	SQ YD	33,634	33,634
67100100	MOBILIZATION	L SUM	1	1
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	<b>2</b>	<b>2</b>
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	6	6
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	1	1
78200100	MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	276	276
X0322559	BOLT REPLACEMENT	EACH	72	72
X0324061*	LOG JAM REMOVAL	L SUM	1	1
X6310218*	TRAFFIC BARRIER TERMINAL, TYPE 6, SPECIAL	EACH	2	2
X6331007*	REMOVAL AND REPLACEMENT OF STEEL PLATE BEAM GUARDRAIL, RAIL ELEMENT	FOOT	50	50
Z0001901	JACK AND REPOSITION BEARINGS	EACH	1	1
Z0001905	STRUCTURAL STEEL REPAIR	POUND	515	515
Z0007101*	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES, No. 1	L SUM	1	1
Z0010501*	CLEANING AND PAINTING STEEL BRIDGE, No. 1	L SUM	1	1
Z0010605	CLEANING DRAINAGE SYSTEM	L SUM	1	1
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	2,230	2,230
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	11	11
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	97	97
Z0021900	EXPANSION JOINT REPAIR	FOOT	66	66
Z0026346	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	1
Z0050400	REMOVE AND REPLACE ANCHOR BOLTS	EACH	4	4
X0327286	SUBSTRUCTURE REPAIR (GROUT BAGS)	L SUM	1	1
X0327285	DOWNSPOUT ADJUSTMENT	EACH	38	38

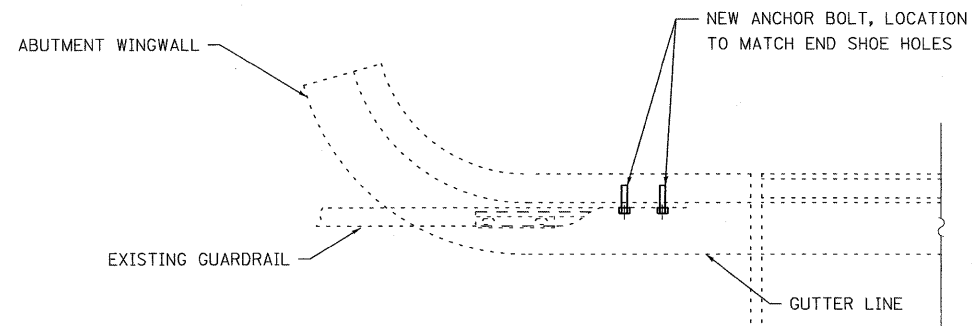
\* SPECIALTY ITEMS

FILE NAME =	USER NAME = #USER#	DESIGNED - TMB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES I-270 OVER MISSISSIPPI RIVER</b>				F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 3
#FILE#	PLOT SCALE = #SCALE#	CHECKED - TSB	REVISED -		SCALE: N.T.S.	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 76A92		
	PLOT DATE = 3/23/2011	DRAWN - TMB	REVISED -		ILLINOIS FED. AID PROJECT								
		CHECKED - RAM	REVISED -										

REMOVE DAMAGED ANCHOR BOLTS AND INSTALL 4 NEW EPOXY GROUTED 3/8" ANCHOR BOLTS WITH STANDARD WASHERS. SEE STANDARD 631046

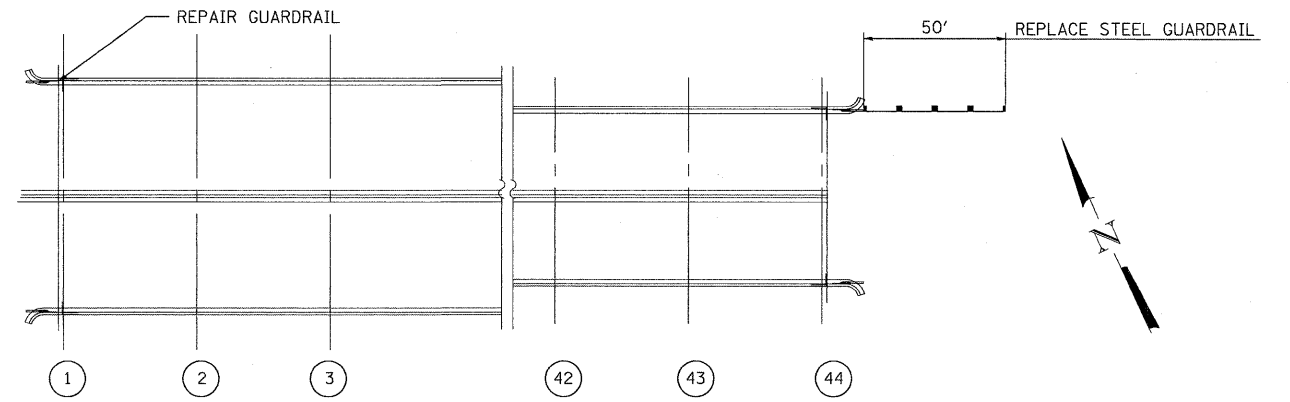


**ELEVATION**



**PLAN**

**GUARDRAIL REPAIR AT ABUTMENT 1  
WESTBOUND LANES - NORTH WINGWALL**



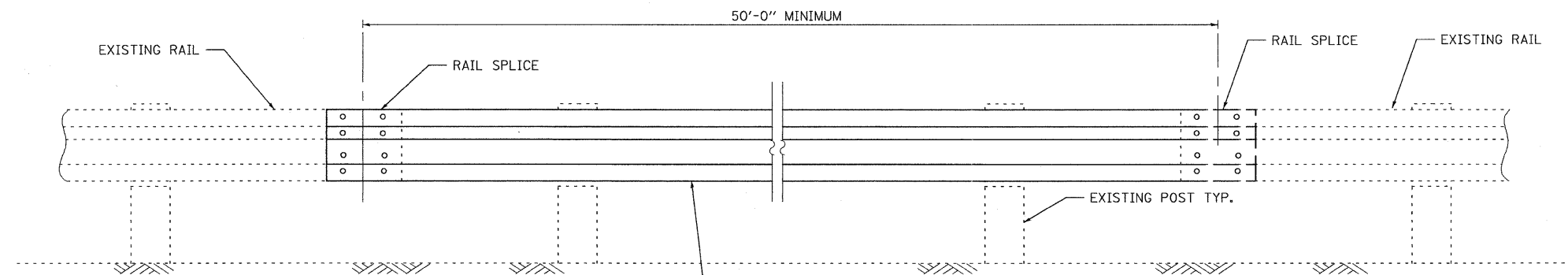
**PLAN VIEW**

NOTES:

THE LIMITS OF STEEL GUARDRAIL REPLACEMENT ARE SHOWN FOR INFORMATION ONLY.

AN ESTIMATED LENGTH OF 50 FT IS SHOWN IN THE "BILL OF MATERIAL" FOR GUARDRAIL REPLACEMENT, THE EXACT QUANTITY WILL BE MEASURED IN THE FIELD AS DIRECTED BY THE ENGINEER.

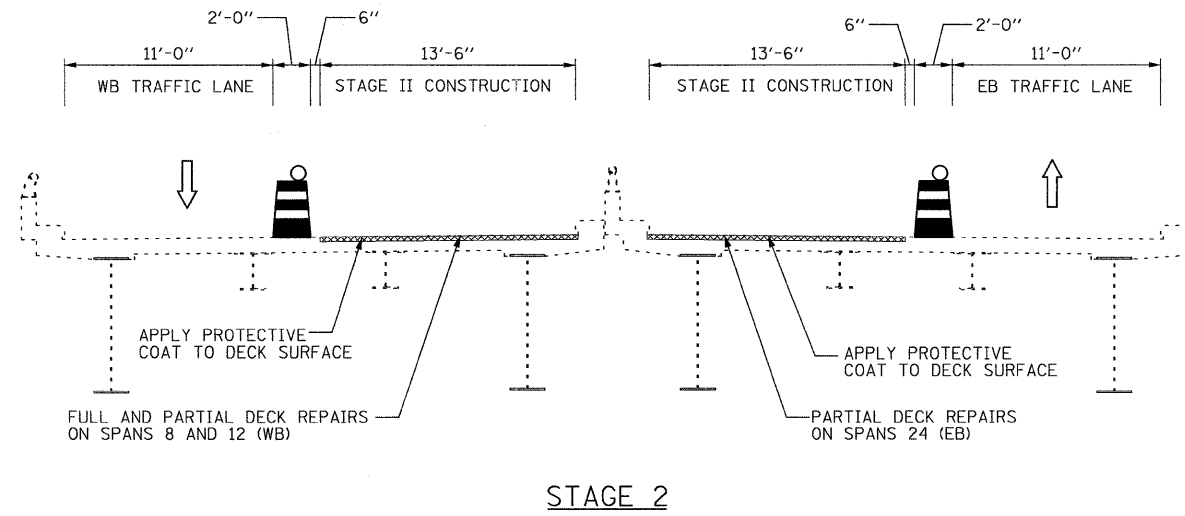
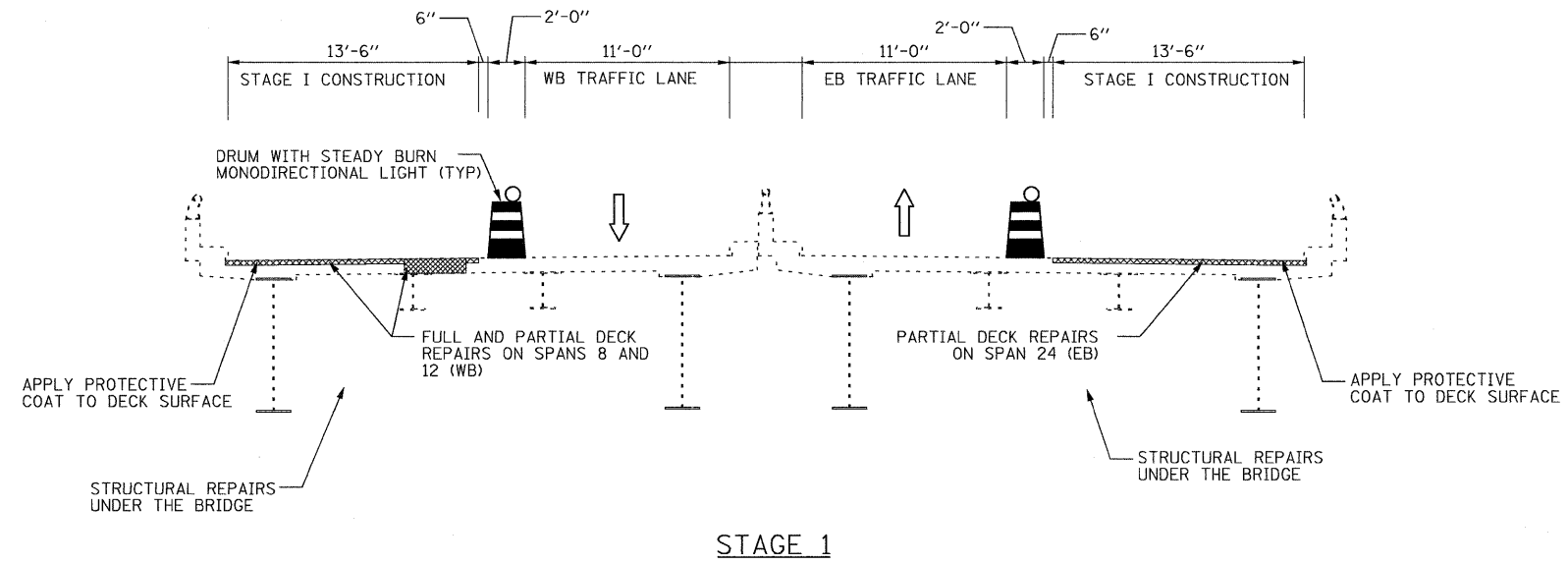
COORDINATE REPAIR WITH WINGWALL MODIFICATIONS.



REMOVE AND REPLACE DAMAGED SECTIONS OF EXISTING GUARDRAIL AND RAIL SPLICES WITH NEW SECTIONS AND RAIL SPLICES AS REQUIRED. SEE STANDARD 630001.

**GUARDRAIL REPLACEMENT  
EAST OF ABUTMENT 44 - WESTBOUND LANES**

FILE NAME =	USER NAME = #USER#	DESIGNED - TMB	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GUARDRAIL REPAIR I-270 OVER MISSISSIPPI RIVER</b>			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
#FILEA#		CHECKED - TSB	REVISED -		270	60B-I-8	MADISON	49	4			
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	PLOT DATE = 3/23/2011	CHECKED - RAM	REVISED -		ILLINOIS FED. AID PROJECT							



**NOTES:**

FOR LANE CLOSURE RESTRICTIONS SEE SHEET 6 OF 49

INDIVIDUAL LANE CLOSURE RESTRICTIONS ARE ALLOWED AS APPROVED BY THE ENGINEER.

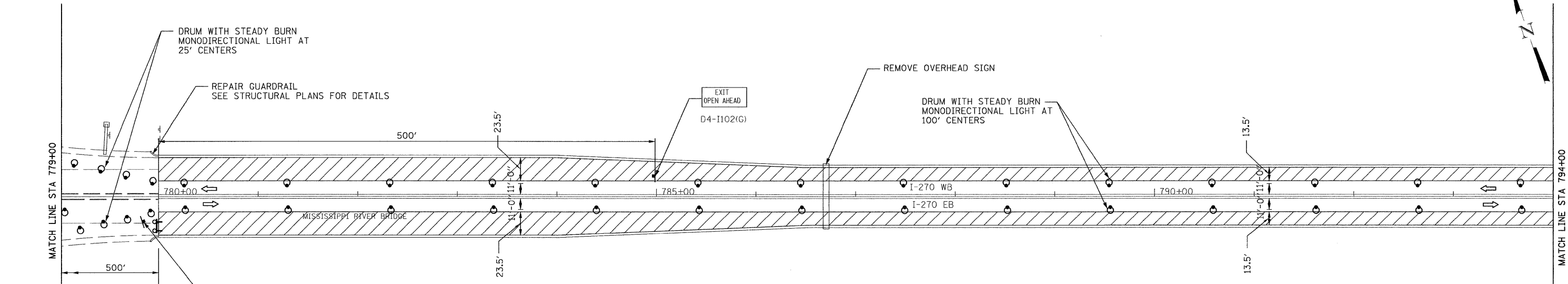
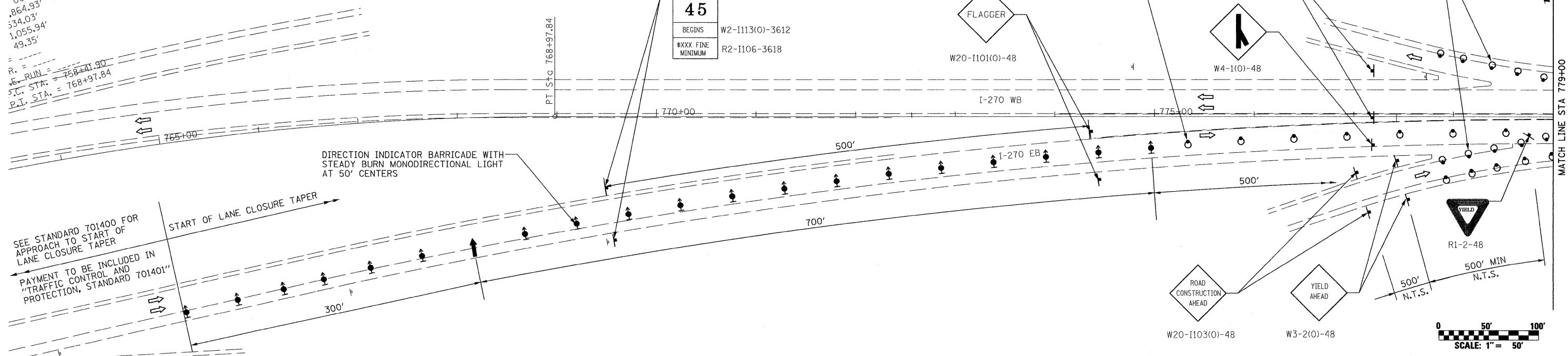
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#FILE#		CHECKED - WCO	REVISED -		SCALE: 1" = 5'			SHEET NO. ___ OF ___ SHEETS STA. _____ TO STA. _____			CONTRACT NO. 76A92	
		DRAWN - EVI	REVISED -		ILLINOIS FED. AID PROJECT							
		PLOT SCALE = #SCALE#	REVISED -									
		PLOT DATE = 3/23/2011	CHECKED - WCO	REVISED -								



JRVE MOCL-B-1  
 = 763+75.93  
 07' 04" (RT)  
 00' 00"  
 .864.93'  
 534.03'  
 1,055.94'  
 49.35'

R<sub>v</sub> =  
 P.C. STA. = 768+97.84  
 P.T. STA. = 768+97.84

WORK ZONE W2-I115(0)-3618  
**SPEED LIMIT 45**  
 R2-1-3648  
 BEGINS W2-I113(0)-3612  
 \$XXX FINE MINIMUM R2-I106-3618



**LEGEND:**

- DIRECTION OF TRAFFIC FLOW
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT
- TYPE III BARRICADE WITH FLASHING LIGHTS
- ARROW BOARD
- SIGN
- EXIST. STEEL PLATE BEAM GUARDRAIL
- PROPOSED STEEL PLATE BEAM GUARDRAIL, TYPE A
- CONSTRUCTION IN THIS STAGE

**NOTES:**

1. REFER TO STANDARD 701400, 701401 AND 701411 FOR ADDITIONAL SIGNING REQUIREMENTS.
2. REFER TO SHEET 6 OF 49 FOR LANE CLOSURE SCHEDULE.
3. CHANGEABLE MESSAGE SIGNS IN THE VICINITY OF THE PROJECT SHALL BE INSTALLED BY THE CONTRACTOR A MINIMUM OF 2 WEEKS PRIOR TO BEGINNING CONSTRUCTION. FOR NUMBER AND LOCATION OF MESSAGE SIGNS SEE SHEET 13 OF 49.

FILE NAME = \$FILEA#	USER NAME = #USER#	DESIGNED - EVI	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL PLAN STAGE 1-1</b>			F.A.T. RTE. 270	SECTION 608-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 7
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PLOT DATE = 3/23/2011		CHECKED - WCO	REVISED -		SHEET NO. OF SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT				

MATCH LINE STA 794+00

MATCH LINE STA 809+00

W2-I115(O)-3618	WORK ZONE
R2-1-3648	SPEED LIMIT
	45
R2-I106-3618	§XXX FINE MINIMUM

DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT AT 100' CENTERS

MISSISSIPPI RIVER BRIDGE

I-270 WB

I-270 EB

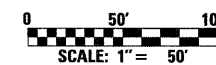
795+00

800+00

805+00

13.5'

13.5'



MATCH LINE STA 809+00

MATCH LINE STA 824+00

DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT AT 100' CENTERS

MISSISSIPPI RIVER BRIDGE

I-270 WB

I-270 EB

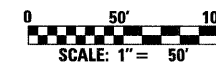
810+00

815+00

820+00

13.5'

13.5'



**LEGEND:**



DIRECTION OF TRAFFIC FLOW



DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT



DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT



TYPE III BARRICADE WITH FLASHING LIGHTS



ARROW BOARD



SIGN



EXIST. STEEL PLATE BEAM GUARDRAIL



PROPOSED STEEL PLATE BEAM GUARDRAIL, TYPE A



CONSTRUCTION IN THIS STAGE

**NOTES:**

1. REFER TO STANDARD 701400, 701401 AND 701411 FOR ADDITIONAL SIGNING REQUIREMENTS.
2. REFER TO SHEET 6 OF 49 FOR LANE CLOSURE SCHEDULE.
3. CHANGEABLE MESSAGE SIGNS IN THE VICINITY OF THE PROJECT SHALL BE INSTALLED BY THE CONTRACTOR A MINIMUM OF 2 WEEKS PRIOR TO BEGINNING CONSTRUCTION. FOR NUMBER AND LOCATION OF MESSAGE SIGNS SEE SHEET 13 OF 49.

FILE NAME =	USER NAME = #USER#
#FILE#	
PLOT SCALE = #SCALE#	
PLOT DATE = 3/23/2011	

DESIGNED - EVI	REVISD -
CHECKED - WCO	REVISD -
DRAWN - EVI	REVISD -
CHECKED - WCO	REVISD -

DESIGNED - EVI	REVISD -
CHECKED - WCO	REVISD -
DRAWN - EVI	REVISD -
CHECKED - WCO	REVISD -

DESIGNED - EVI	REVISD -
CHECKED - WCO	REVISD -
DRAWN - EVI	REVISD -
CHECKED - WCO	REVISD -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL PLAN  
STAGE 1-2**

SCALE: 1" = 50' SHEET NO. OF SHEETS STA. TO STA.

F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 8
			CONTRACT NO. 76A92	
ILLINOIS FED. AID PROJECT				

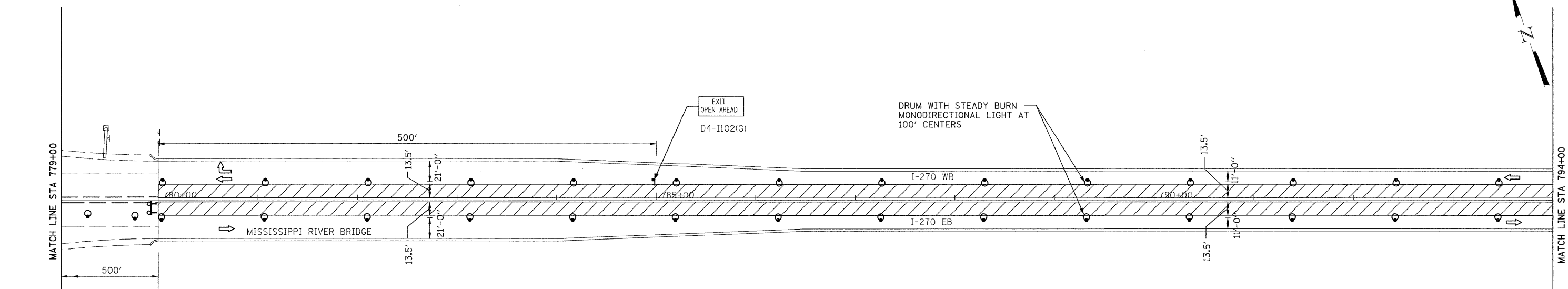
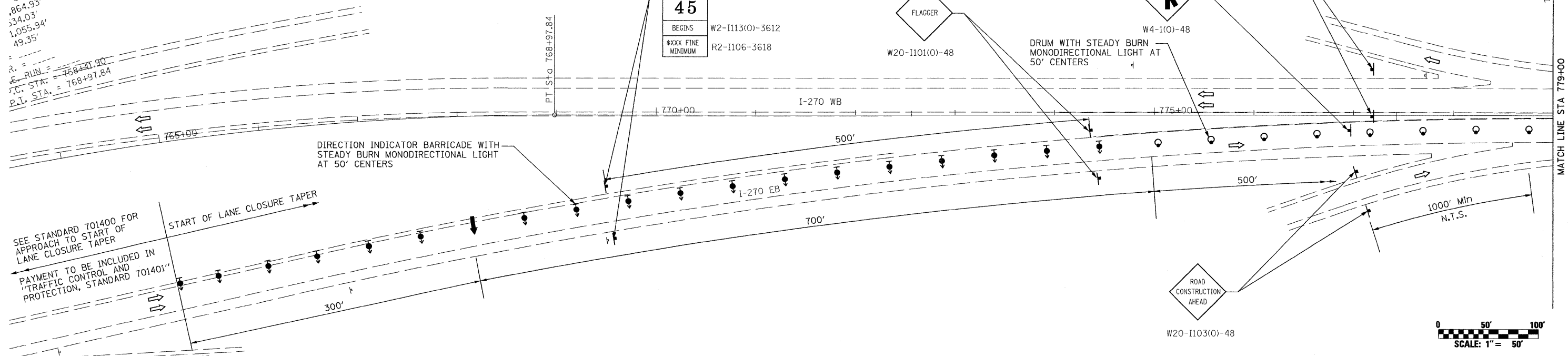




JRVE MOCL-B-1  
 = 763+75.93  
 07' 04" (RT)  
 00' 00"  
 .864.93'  
 334.03'  
 1,055.94'  
 49.35'

R. =  
 E. RUN = 758+41.90  
 P.C. STA. = 768+97.84  
 P.L. STA. =

WORK ZONE	W2-1115(0)-3618
SPEED LIMIT	R2-1-3648
BEGINS	W2-1113(0)-3612
MINIMUM	R2-1106-3618



**LEGEND:**

- DIRECTION OF TRAFFIC FLOW
- DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
- DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT
- TYPE III BARRICADE WITH FLASHING LIGHTS
- ARROW BOARD
- SIGN
- EXIST. STEEL PLATE BEAM GUARDRAIL
- PROPOSED STEEL PLATE BEAM GUARDRAIL, TYPE A
- CONSTRUCTION IN THIS STAGE

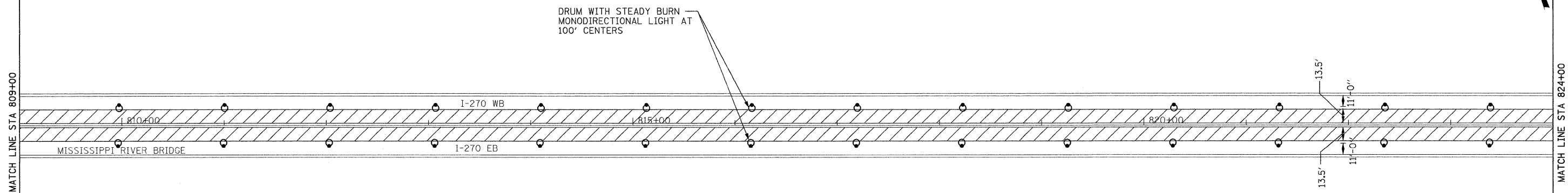
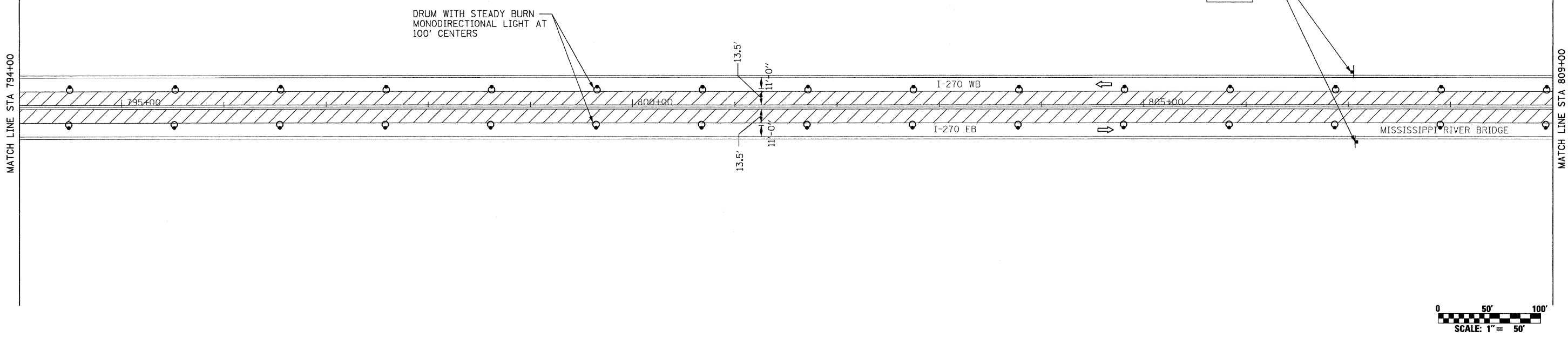
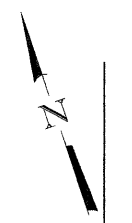
**NOTES:**

1. REFER TO STANDARD 701400, 701401 AND 701411 FOR ADDITIONAL SIGNING REQUIREMENTS.
2. REFER TO SHEET 6 OF 49 FOR LANE CLOSURE SCHEDULE.
3. CHANGEABLE MESSAGE SIGNS IN THE VICINITY OF THE PROJECT SHALL BE INSTALLED BY THE CONTRACTOR A MINIMUM OF 2 WEEKS PRIOR TO BEGINNING CONSTRUCTION. FOR NUMBER AND LOCATION OF MESSAGE SIGNS SEE SHEET 13 OF 49.

FILE NAME =	USER NAME = #USER#	DESIGNED - EVI	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL PLAN STAGE 2-1</b>			F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 10
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	PLOT DATE = 3/23/2011	DRAWN - EVI	REVISED -									
		CHECKED - WCO	REVISED -		ILLINOIS FED. AID PROJECT							

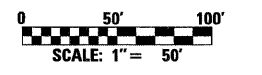
W2-I115(0)-3618  
 R2-1-3648  
 R2-I106-3618

WORK ZONE
<b>SPEED LIMIT</b>
<b>45</b>
§XXX FINE MINIMUM

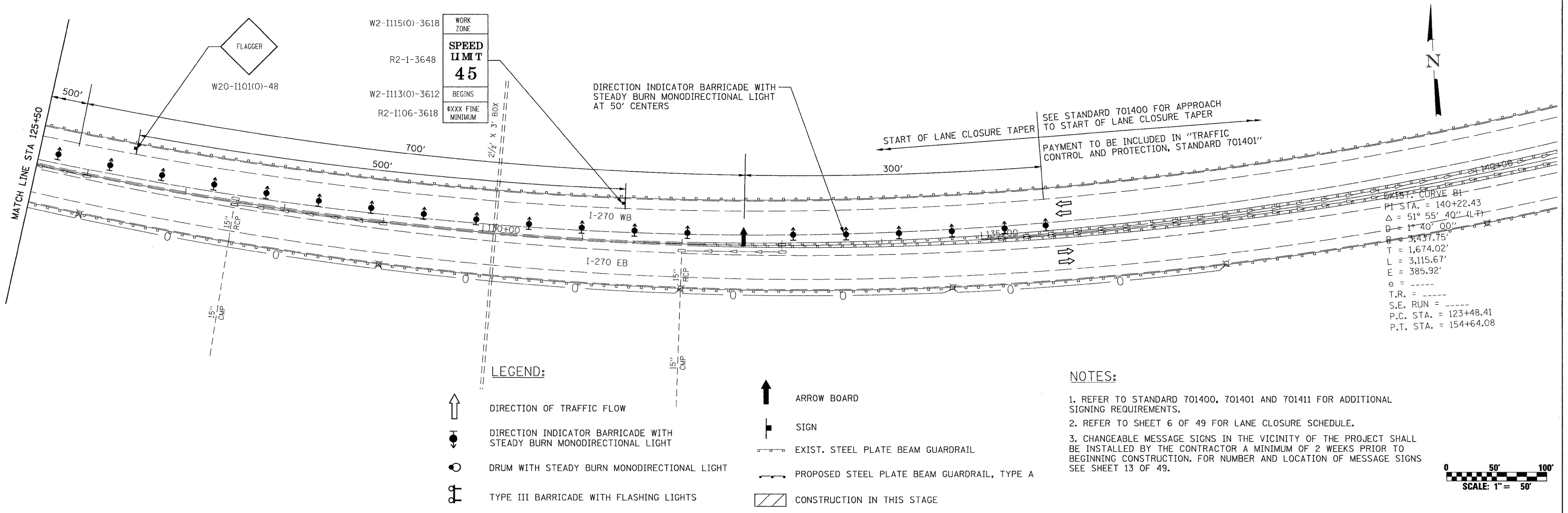
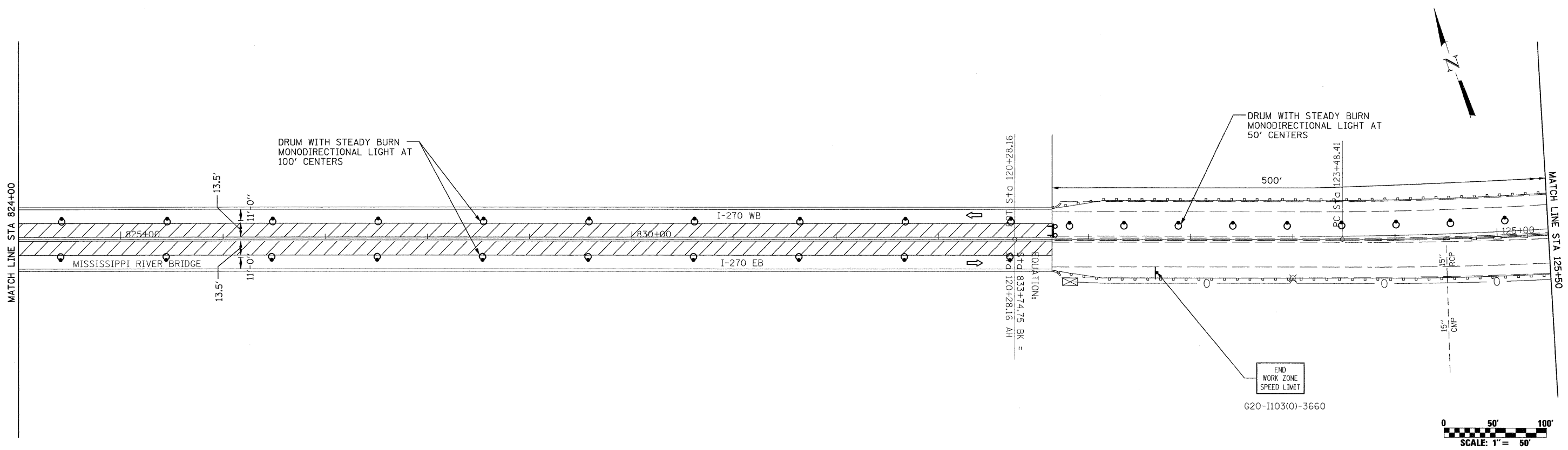


- LEGEND:**
- DIRECTION OF TRAFFIC FLOW
  - DIRECTION INDICATOR BARRICADE WITH STEADY BURN MONODIRECTIONAL LIGHT
  - DRUM WITH STEADY BURN MONODIRECTIONAL LIGHT
  - TYPE III BARRICADE WITH FLASHING LIGHTS
  - ARROW BOARD
  - SIGN
  - EXIST. STEEL PLATE BEAM GUARDRAIL
  - PROPOSED STEEL PLATE BEAM GUARDRAIL, TYPE A
  - CONSTRUCTION IN THIS STAGE

- NOTES:**
- REFER TO STANDARD 701400, 701401 AND 701411 FOR ADDITIONAL SIGNING REQUIREMENTS.
  - REFER TO SHEET 6 OF 49 FOR LANE CLOSURE SCHEDULE.
  - CHANGEABLE MESSAGE SIGNS IN THE VICINITY OF THE PROJECT SHALL BE INSTALLED BY THE CONTRACTOR A MINIMUM OF 2 WEEKS PRIOR TO BEGINNING CONSTRUCTION. FOR NUMBER AND LOCATION OF MESSAGE SIGNS SEE SHEET 13 OF 49.



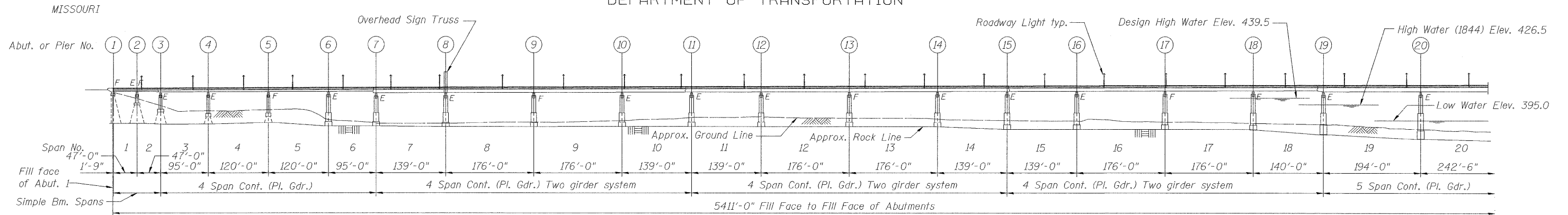
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	PLOT SCALE = #SCALE#	CHECKED - WCO	REVISED -		SCALE: 1" = 50'	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 76A92	
	PLOT DATE = 3/23/2011	DRAWN - EVI	REVISED -		ILLINOIS FED. AID PROJECT							
		CHECKED - WCO	REVISED -									



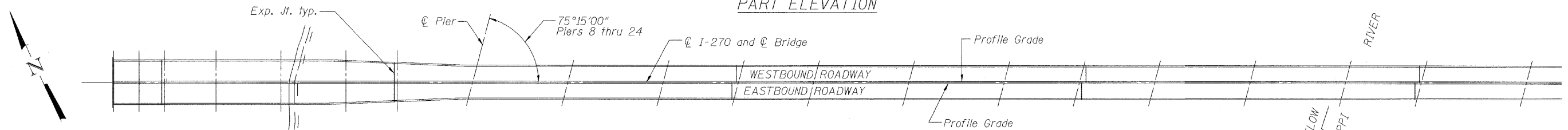
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	PLOT SCALE = #SCALE#	CHECKED - WCO	REVISED -		SCALE: 1" = 50'	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 76A92	
	PLOT DATE = 3/23/2011	DRAWN - EVI	REVISED -								ILLINOIS FED. AID PROJECT	
		CHECKED - WCO	REVISED -									



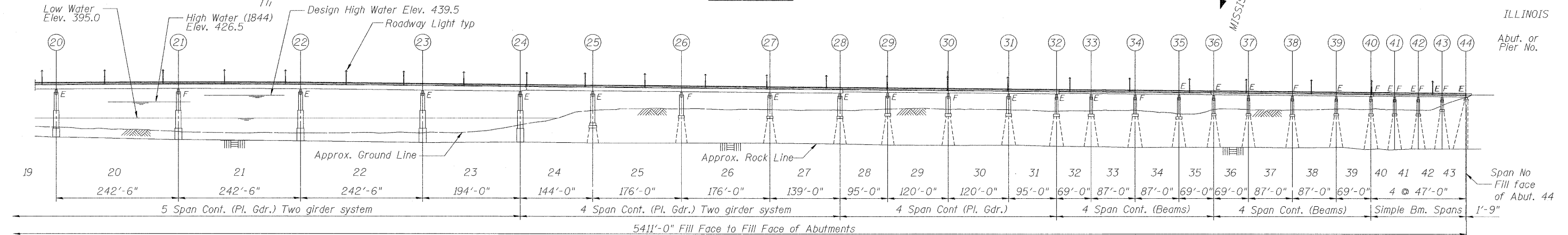
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



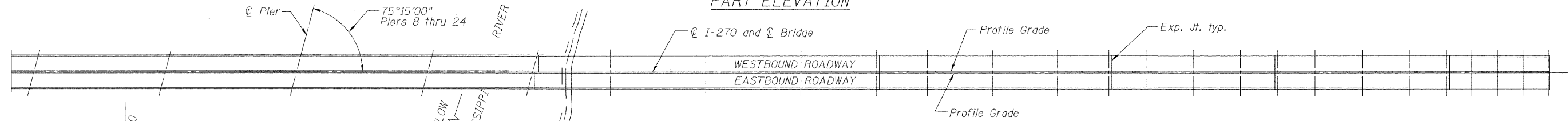
PART ELEVATION



PART PLAN



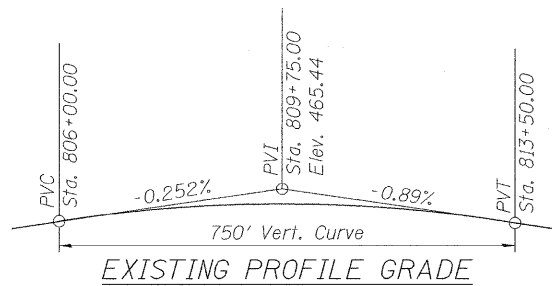
PART ELEVATION



PART PLAN

PROPOSED IMPROVEMENTS

1. Provide partial-depth and full-depth deck slab repairs.
2. Seal the deck with a concrete sealer.
3. Repair existing median safety curb as directed by the Engineer and install retrofit bridge rail 2399.
4. Replace broken and/or missing bolts at bearings.
5. Reset bearings as indicated.
6. Replace missing nut at pin and link assembly.
7. Furnish and install steel catch beams under the existing support beams at existing pin and link assemblies at piers 3, 32, 36 and 40
8. Furnish and install seismic restrainers at the joints located near piers 7, 11, 15, 19, 24 and 28.
9. Paint superstructure within 10'-0" on each side of the expansion joints.
10. Repair broken cross bracing, diaphragms, and connection plates.
11. Install riprap at river bank between pier 5 and pier 6.
12. Underwater repairs to pier 18.
13. Remove log jam around piers.
14. Remove the sign truss near pier 8.
15. Install new concrete barriers on wingwalls at abutment 44.



DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



Ricardo A. Mantay Jr.  
SIGNATURE  
5/12/2011  
DATE  
LICENSE EXPIRES 11-30-2012

GENERAL PLAN AND ELEVATION  
I-270 OVER MISSISSIPPI RIVER  
FAI-270  
MADISON COUNTY  
STRUCTURE NO. 060-0035

SHEET NO. 1 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 14
	CONTRACT NO. 76A92			FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT	

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TOTAL BILL OF MATERIAL

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INDEX OF DRAWINGS

ITEM	UNIT	SUPER	SUB	TOTAL
STONE DUMPED RIPRAP, CLASS A6	TON	---	11,200	11,200
CONCRETE REMOVAL	CU YD	3	---	3
BRIDGE RAIL REMOVAL	FOOT	5,409	---	5,409
CONCRETE SUPERSTRUCTURE	CU YD	3	---	3
FURNISHING & ERECTING STRUCTURAL STEEL	POUND	366,400	---	366,400
REINFORCEMENT BARS, EPOXY COATED	POUND	245	---	245
STEEL RAILING, TYPE 2399	FOOT	10,818	---	10,818
CONCRETE SEALER	SQ YD	33,634	---	33,634
REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	1	---	1
MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	276	---	276
BOLT REPLACEMENT	EACH	72	---	72
LOG JAM REMOVAL	L SUM	---	1	1
TRAFFIC BARRIER TERMINAL TYPE 6, SPECIAL	EACH	2	---	2
JACK AND REPOSITION BEARINGS	EACH	1	---	1
STRUCTURAL STEEL REPAIR	POUND	515	---	515
CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES, LOCATION 1	L SUM	1	---	1
CLEANING AND PAINTING STEEL BRIDGE, LOCATION 1	L SUM	1	---	1
CLEANING DRAINAGE SYSTEM	L SUM	1	---	1
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 IN.)	SQ FT	2,230	---	2,230
DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	11	---	11
DECK SLAB REPAIR (PARTIAL)	SQ YD	97	---	97
EXPANSION JOINT REPAIR	FOOT	66	---	66
SUBSTRUCTURE REPAIR (GROUT BAGS)	L SUM	---	1	1
DOWNSPOUT ADJUSTMENT	EACH	38	---	38

LIST OF STATE STANDARDS

STD. NO.	STD. NAME
630001-09	Steel Plate Beam Guardrail
631033-04	Traffic Barrier Terminal, Type 6B
606001-04	Concrete Curb Type B and Combination Concrete Curb and Gutter
635006-03	Reflector and Terminal Marker Placement
635011-02	Reflector Marker and Mounting Details

1	General Plan & Elevation	19	Steel Repair Details - 4
2	General Data	20	Bearing Modification
3	Superstructure Plan	21	Catch Beam Details - 1
4	Concrete Deck Slab Repair-1	22	Catch Beam Details - 2
5	Concrete Deck Slab Repair-2	23	Seismic Restrainer - Near Pier 7
6	Median Concrete Repair	24	Seismic Restrainer - Near Pier 28
7	Steel Railing, Type 2399	25	Seismic Restrainer Near Piers 7 & 28 - 1
8	Steel Railing - Type 2399 Post Layout	26	Seismic Restrainer Near Piers 7 & 28 - 2
9	Expansion Joint and Drainage Repair Details	27	Seismic Restrainer Near Piers 7 & 28 - 3
10	Wingwall Modifications - Abutment 44	28	Seismic Restrainer Near Piers 7 & 28 - 4
11	Framing Plans Spans 1 thru 10	29	Seismic Restrainer Near Piers 11 & 15
12	Framing Plans Spans 11 thru 18	30	Seismic Restrainer Near Piers 19 & 24 - 1
13	Framing Plans Spans 19 thru 23	31	Seismic Restrainer Near Piers 19 & 24 - 2
14	Framing Plans Spans 24 thru 31	32	Seismic Restrainer Near Piers 19 & 24 - 3
15	Framing Plans Spans 32 thru 43	33	Substructure Plan (Partial)
16	Steel Repair Details - 1	34	Scour Protection Piers 5 & 6
17	Steel Repair Details - 2	35	Scour Protection Pier 18
18	Steel Repair Details - 3	36	Pier 18 Inspection Notes (reference)

GENERAL NOTES

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

Existing plans of the structure will be provided upon request to the Engineer.

Plan dimensions and details relative to existing plans are subject to routine variations. The contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the contractor will be paid for the quantity actually furnished based at the unit price bid for the work.

The Engineer shall determine the extent, location and type of deck slab repairs beyond those listed in the plans in the field.

The use of shotcrete is not allowed for DECK SLAB REPAIR (FULL DEPTH, TYPE II), DECK SLAB REPAIR(PARTIAL) or STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5IN.)

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost of this work will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding  $\frac{1}{4}$  in deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welding accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

The Contractor shall submit calculations and details demonstrating the structural integrity of the bridge is maintained under the additional imposed loads of the containment system. See Special Provisions.

If the Contractor's procedures for rehabilitation to the bridge involves placement by cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams.

Cost of removal and/or reinstallation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of STRUCTURAL STEEL REPAIR.

All expansion joint troughs and downspouts shall be cleaned of debris. See Special Provisions for CLEANING DRAINAGE SYSTEM.

The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except cofferdams. This shall include the placement of material for run-arounds, causeways, etc. Any permit application by the Contractor shall refer to the IDNR 3704 Floodway Construction permit number.

All new structural steel shall be AASHTO M 270 Grade 50.

Design Stresses

Concrete  
 $f'c = 3,500$  psi

Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60. See Sec 1006.10.

Reinforcement bars designated (E) shall be epoxy coated.

Material: Pin = ASTM A688 (Class F)  
Nut = ASTM A709 Grade 36

No field welding is permitted, except as specified in the contract documents.

Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "  $\phi$ , open holes  $\frac{13}{16}$ "  $\phi$ , unless otherwise noted.

Fasteners shall be high strength bolts. Bolts  $\frac{7}{8}$ "  $\phi$ , open holes  $\frac{15}{16}$ "  $\phi$ , unless otherwise noted.

Fasteners shall be high strength bolts. Bolts 1"  $\phi$ , open holes 1  $\frac{1}{16}$ "  $\phi$ , unless otherwise noted.

Traffic:

Maintain one lane of traffic during construction (see Roadway Traffic Control Plans).

The Contractor shall apply the CONCRETE SEALER on the deck once all deck repairs are completed.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Guide Bridge Special Provision for "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Existing structural steel shall only be cleaned and painted as required by the Special Provision for "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Cleaning and painting of existing structural steel shall be as specified in the Guide Bridge Special Provision for "Cleaning and Painting Existing Steel Structures". All beams, bearings and other structural steel within 10 ft (measured along the beam) of either side of deck joints shall be cleaned per Near White Blast Cleaning - SSPC-SP 10.

The designated areas cleaned per Near White Blast Cleaning - SSPC-SP 10 shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No 5B 7/1.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces shall be Gray, Munsell No. 5B 7/1. See Guide Bridge Special Provisions.

Location 1 for Cleaning and Painting Steel Bridge and Containment and Disposal of Lead Paint Cleaning Residues includes all beams, bearings and other structural steel within 10 ft (measured along the beam) of either side of deck joints.

The seismic restraint systems near Piers 7, 11, 15, 19, 24 and 28 were developed from the criteria contained in the Seismic Retrofitting Manual for Highway Bridges, Publication No. FHWA-RD-95-052 May 1995.

Existing pavement markings shall be temporarily covered prior to application of the deck surface treatment, to prevent the material from being applied to the markings. The temporary covering shall be removed after application of the deck surface treatment and prior to opening to traffic. Cost included with Concrete Sealer.

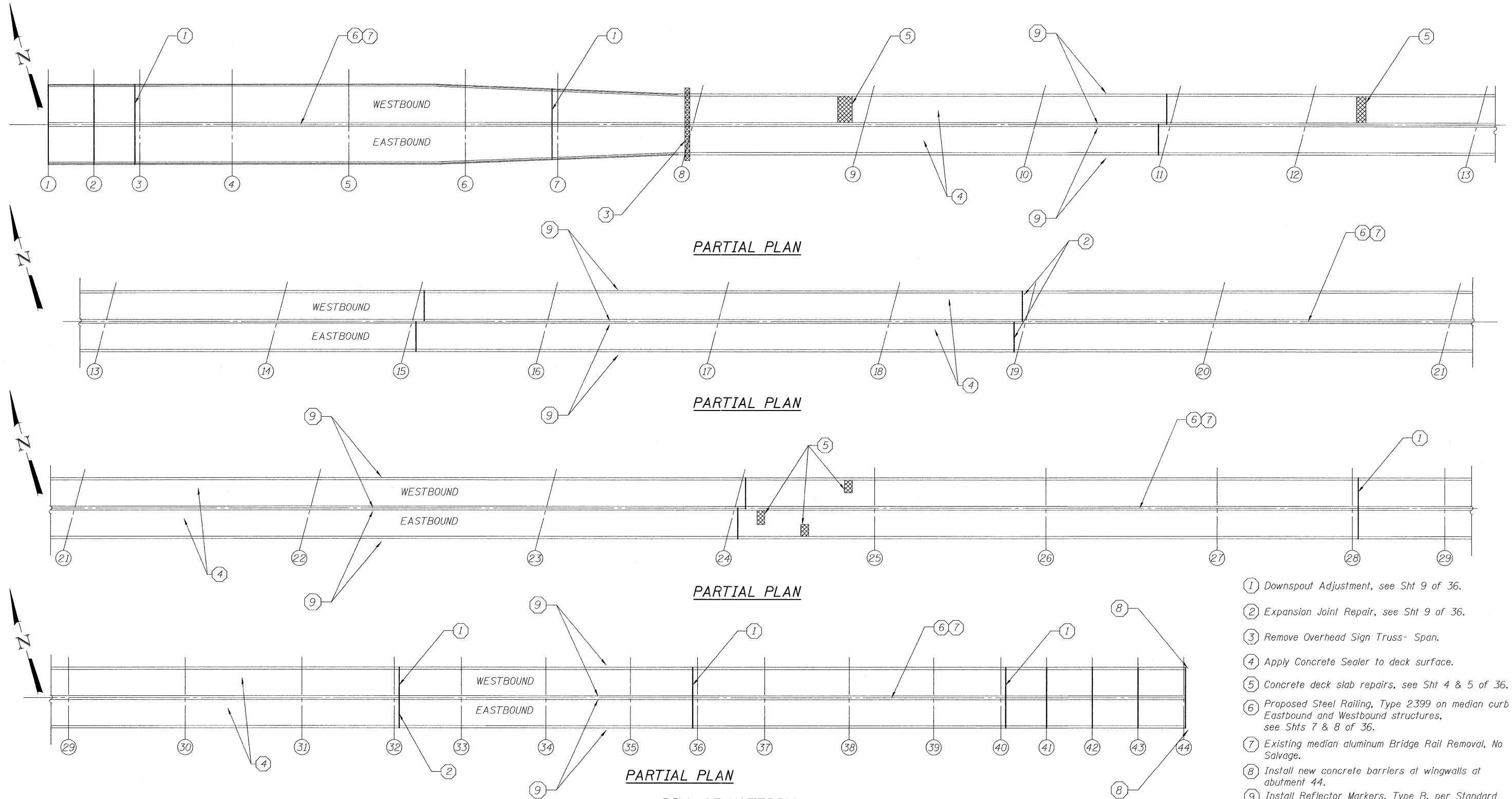
GENERAL DATA  
STRUCTURE NO. 060-0035

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2	270	60B-I-8	MADISON	49	15
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



- ① Downspout Adjustment, see Sht 9 of 36.
- ② Expansion Joint Repair, see Sht 9 of 36.
- ③ Remove Overhead Sign Truss- Span.
- ④ Apply Concrete Sealer to deck surface.
- ⑤ Concrete deck slab repairs, see Sht 4 & 5 of 36.
- ⑥ Proposed Steel Railing, Type 2399 on median curb Eastbound and Westbound structures, see Shts 7 & 8 of 36.
- ⑦ Existing median aluminum Bridge Rail Removal, No Salvage.
- ⑧ Install new concrete barriers at wingwalls at abutment 44.
- ⑨ Install Reflector Markers, Type B, per Standard Drawings 635006 & 635011.

**BILL OF MATERIAL**

Item	Unit	Total
Concrete Sealer	Sq. Yd.	33,634
Remove Overhead Sign Structure - Span	Each	1
Cleaning Drainage System	L Sum	1
Monodirectional Prismatic Barrier Reflector	Each	276
Bridge Rail Removal	Foot	5,409

**SUPERSTRUCTURE PLAN  
STRUCTURE NO. 060-0035**

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

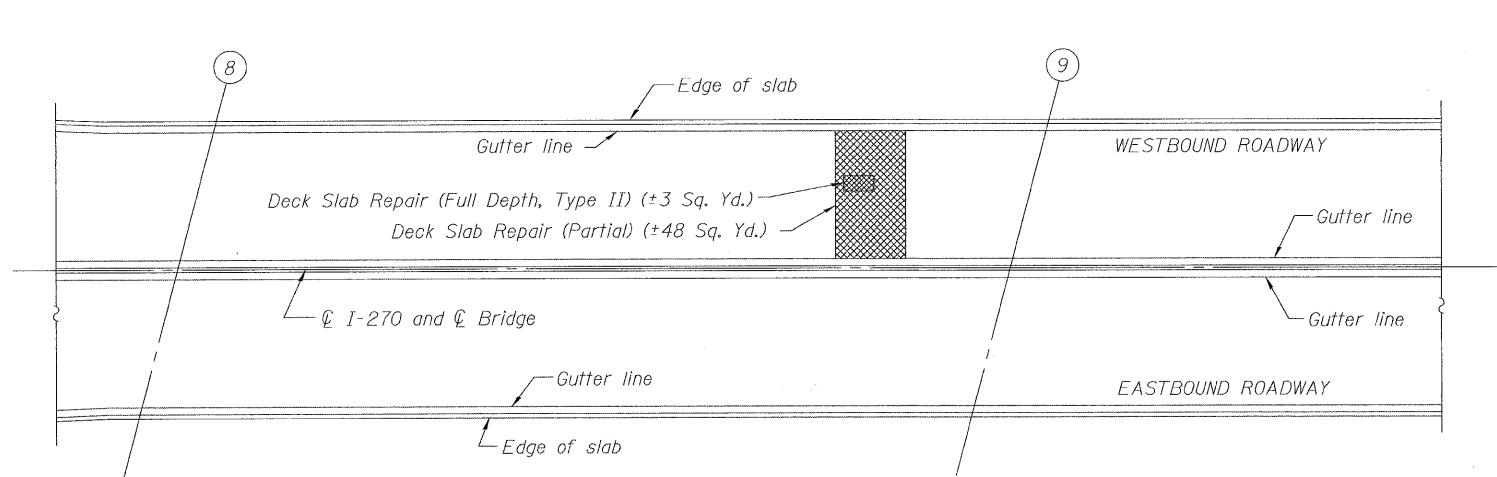


SHEET NO. 3 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	16
CONTRACT NO. 76A92					
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

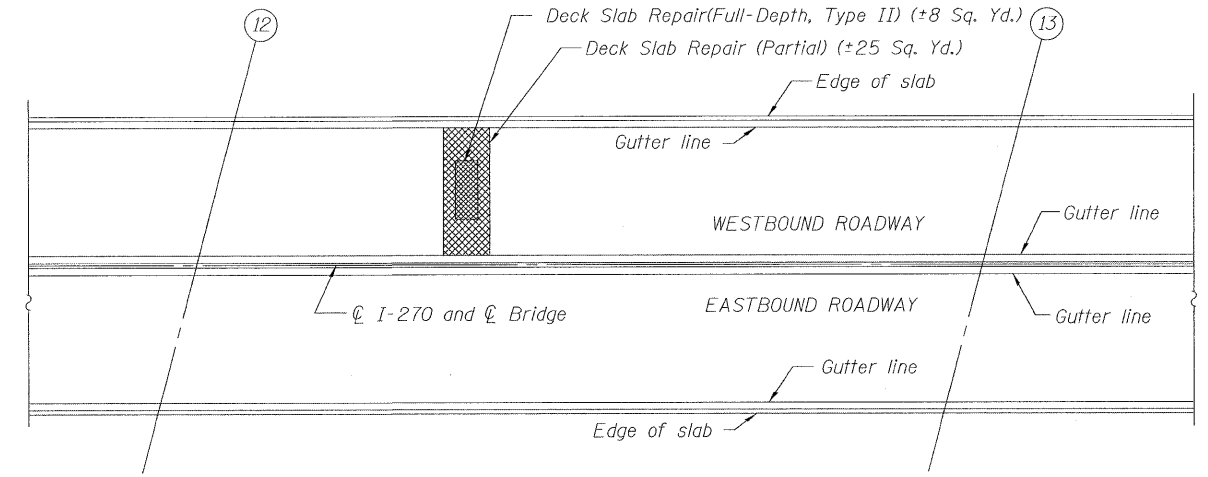
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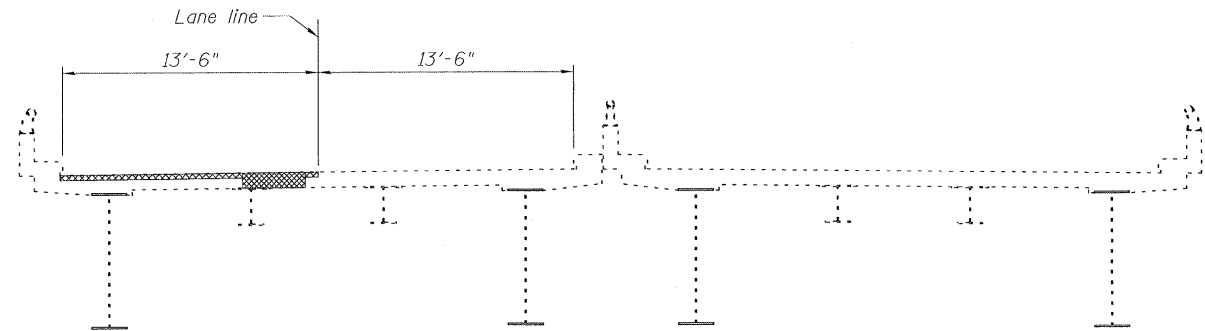
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



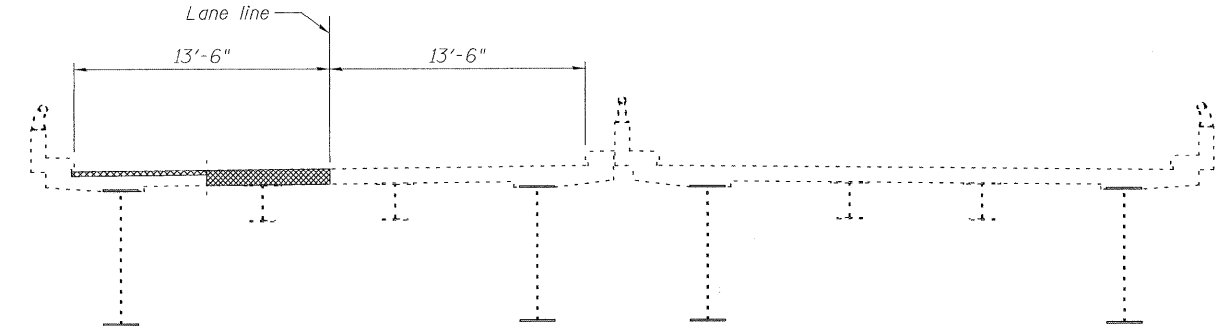
PLAN SPAN 8



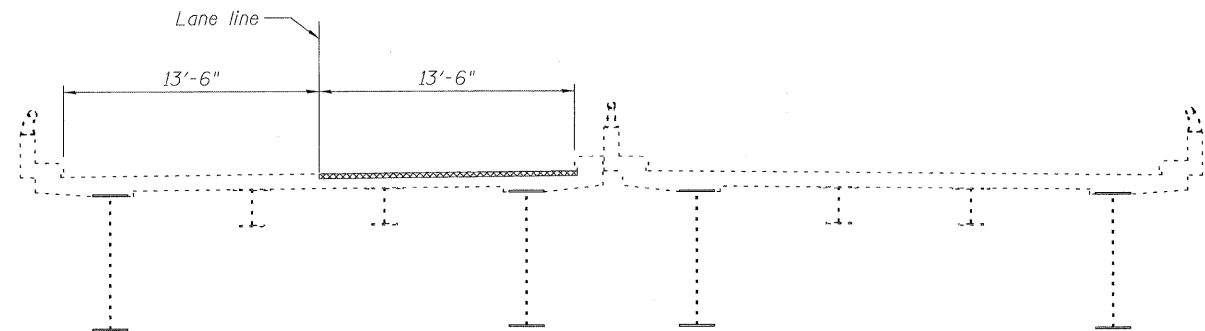
PLAN SPAN 12



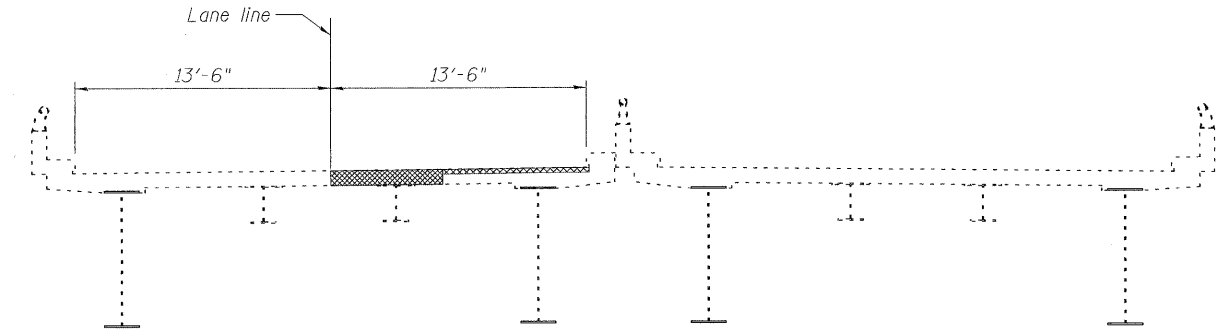
STAGE I REPAIR - SPAN 8



STAGE I REPAIR - SPAN 12



STAGE II REPAIR - SPAN 8



STAGE II REPAIR - SPAN 12

Notes:

The limits of the partial deck slab repair are shown for information only.

An estimated quantity is given for DECK SLAB REPAIR(FULL DEPTH, TYPE II) and DECK SLAB REPAIR (PARTIAL), the exact quantity will be measured in the field as directed by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	11
Deck Slab Repair (Partial)	Sq. Yd.	73

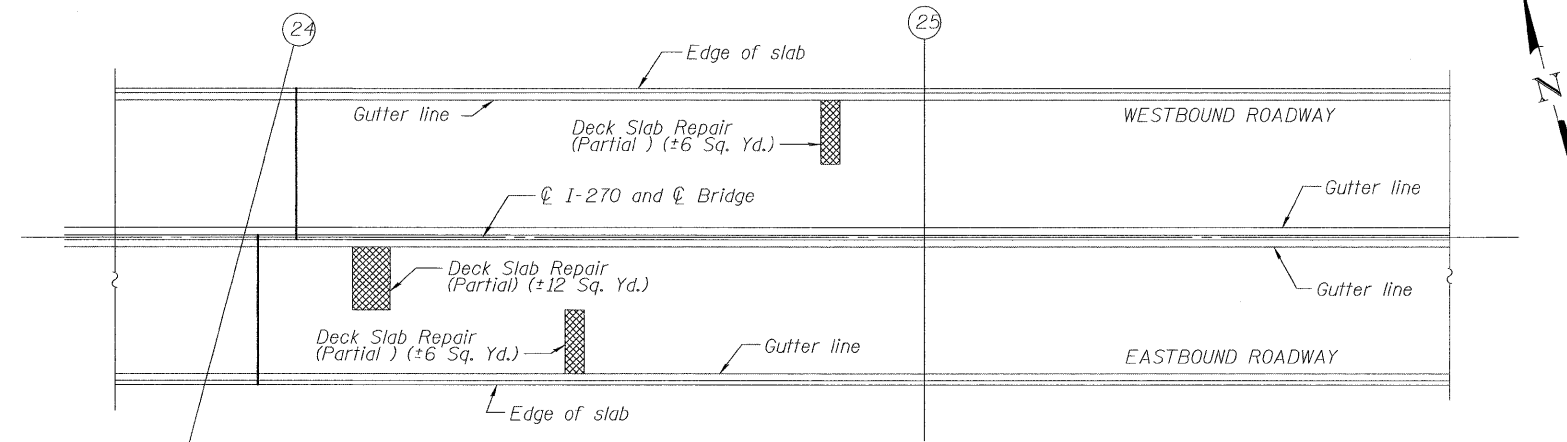
CONCRETE DECK SLAB REPAIR-1  
STRUCTURE NO. 060-0035

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

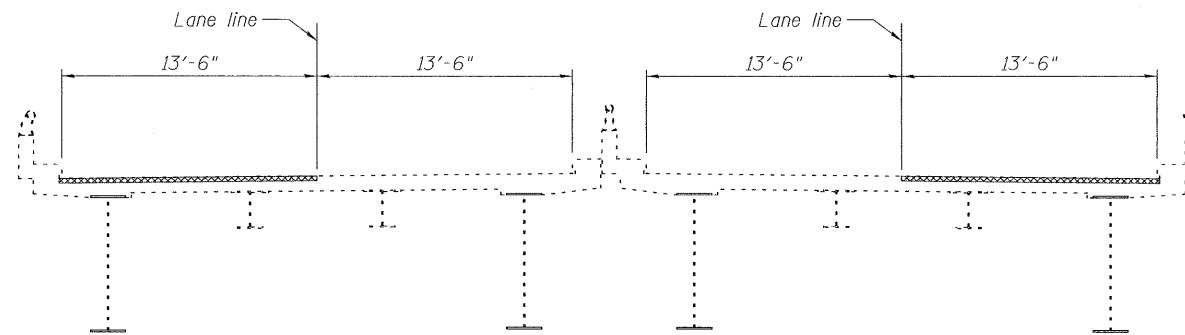


SHEET NO. 4 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	17
	FED. ROAD DIST. NO. 8 ILLINOIS			FED. AID PROJECT	
CONTRACT NO. 76A92					

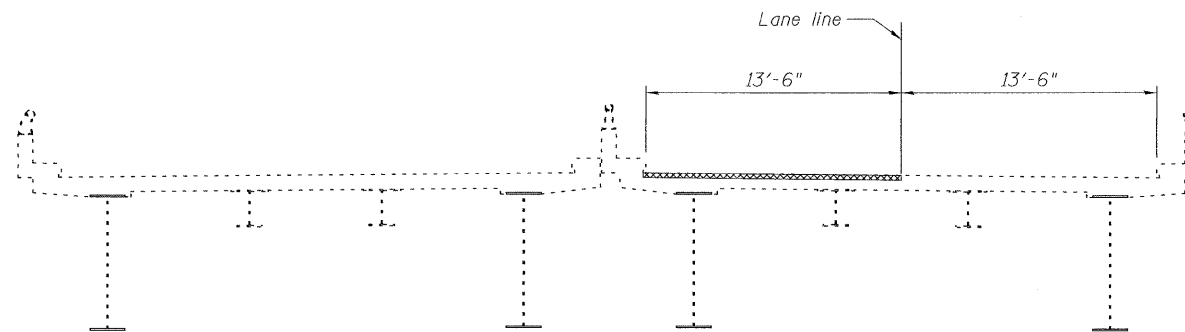
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN SPAN 24



STAGE I REPAIR - SPAN 24



STAGE II REPAIR - SPAN 24

Notes:

The limits of the partial deck slab repair are shown for information only.

An estimated quantity is given for DECK SLAB REPAIR (PARTIAL), the exact quantity will be measured in the field as directed by the Engineer.

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Partial)	Sq. Yd.	24

CONCRETE DECK SLAB REPAIR-2  
STRUCTURE NO. 060-0035

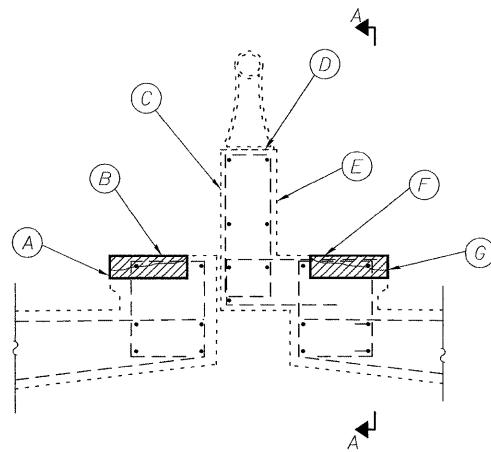
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5	270	60B-I-8	MADISON	49	18
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

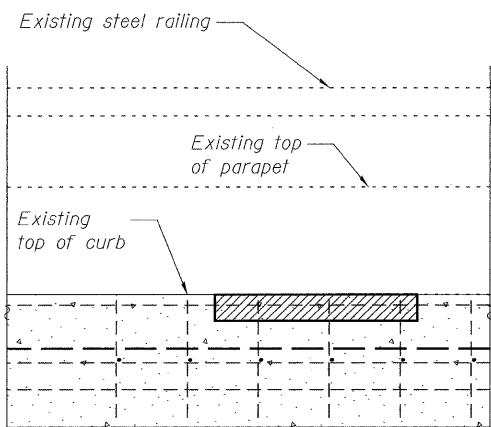


**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



TYPICAL MEDIAN CURB REPAIR  
(PARTIAL)



VIEW A-A

WESTBOUND STRUCTURE  
DETERIORATED AREA

No.	Station	Face	Area (Sq. Ft.)
3	781+35	B	12
5	781+56	B	28
6	781+73	B	15
9	782+99	B	6
11	783+37	B	10
14	784+31	B	4
16	785+63	B	6
22	786+62	B	4
23	788+67	B	2
24	789+05	B	19
25	789+32	B	3
27	789+58	B	7
28	790+57	B	3
30	791+56	B	3
31	791+68	B	4.5
33	791+81	B	2
34	792+01	B	4
35	792+17	B	2
36	792+30	B	3
37	792+42	B	2
38	792+79	B	3
40	792+91	B	2
41	792+95	B	2
43	793+12	B	7
45	793+24	B	6
46	793+41	B	16
49	793+58	B	6
51	793+77	B	14
52	794+08	B	4.5
54	794+17	B	3
56	794+84	B	6
57	794+92	B	4
60	795+00	B	3
61	795+13	B	8
62	795+21	B	8
64	795+34	B	4
67	795+55	B	2
68	795+67	B	2
69	795+72	B	3
73	795+88	B	8
76	796+01	B	8
90	796+30	B	14
83	796+47	B	3
84	796+51	B	2
90	796+80	B	4
92	797+00	B	4
93	797+04	B	3
95	797+12	B	9
97	797+29	B	6
98	797+47	B	33
99	797+78	B	16
101	798+03	B	5
102	798+12	B	11
103	798+29	B	5
105	798+47	B	9
106	798+56	B	6
108	798+69	B	8
111	798+82	B	12
112	798+90	B	4

No.	Station	Face	Area (Sq. Ft.)
114	799+03	B	9
116	799+12	B	3
117	799+21	B	3
118	799+25	B	4
119	799+46	B	4
120	799+50	B	8
121	799+54	B	3
122	799+63	B	5
123	799+75	B	3
124	799+84	B	5
125	799+92	B	4.5
127	800+13	B	24
128	800+42	B	2
130	800+47	B	5
132	800+55	B	7.5
133	800+72	B	3
134	800+80	B	4.5
135	801+01	B	4.5
139	801+25	B	3
140	801+33	B	4
143	801+45	B	3
144	801+57	B	8
146	801+73	B	3
148	801+87	B	20
149	802+01	B	4
150	802+09	B	5
152	802+17	B	2
153	802+25	B	5
154	802+37	B	3
155	802+45	B	2
156	802+53	B	13.5
157	802+61	B	3
158	802+69	B	3
159	802+73	B	3
160	802+85	B	2
161	802+89	B	4
162	803+06	B	4
164	803+18	B	4
165	803+47	B	6
166	803+59	B	4
167	803+68	B	6
168	803+76	B	4
169	803+96	B	4
172	804+42	B	6
174	804+48	B	2
175	804+55	B	20
176	805+03	B	2
178	805+41	B	4
182	806+45	B	10
184	806+80	B	9
185	806+97	B	3
187	807+54	B	10
191	808+26	B	16
192	808+35	B	7
193	808+41	B	4
198	808+84	B	1
199	808+89	B	4
202	809+66	B	1.5
209	810+76	B	2

No.	Station	Face	Area (Sq. Ft.)
210	810+96	B	6
214	811+61	B	6
220	813+36	B	32
221	813+47	B	10
222	813+57	B	3
224	813+63	B	10
227	813+92	B	4
229	814+23	B	6
234	815+72	B	3
235	816+38	B	3
240	817+12	B	2
248	819+77	B	30
250	820+01	B	32
252	820+25	B	14
254	820+76	B	4
265	822+28	B	4
266	822+32	B	3
271	822+95	B	5
272	822+99	B	3
273	823+03	B	7
275	823+15	B	3
278	823+47	B	5
279	823+51	B	4
280	823+55	B	5
281	823+63	B	4
282	823+67	B	6
284	823+95	B	4
289	824+39	B	6
292	824+71	B	4.5
298	825+62	B	3
300	825+82	B	13.5
301	825+90	A/B	5
306	826+51	B	2
313	827+14	B	3
317	827+30	B	2
318	827+58	B	3
319	827+61	B	2
326	828+67	B	3
331	829+34	B	6
333	829+77	B	10
335	830+19	B	4
336	830+28	B	5
339	830+78	B	20
340	830+78	B	6
341	830+84	B	4
342	830+92	B	5
343	831+06	B	12
344	831+32	B	28
345	831+42	B	5.5
346	831+63	B	4
347	831+85	B	4
348	831+95	B	11
349	832+09	B	4

EASTBOUND STRUCTURE  
DETERIORATED AREA

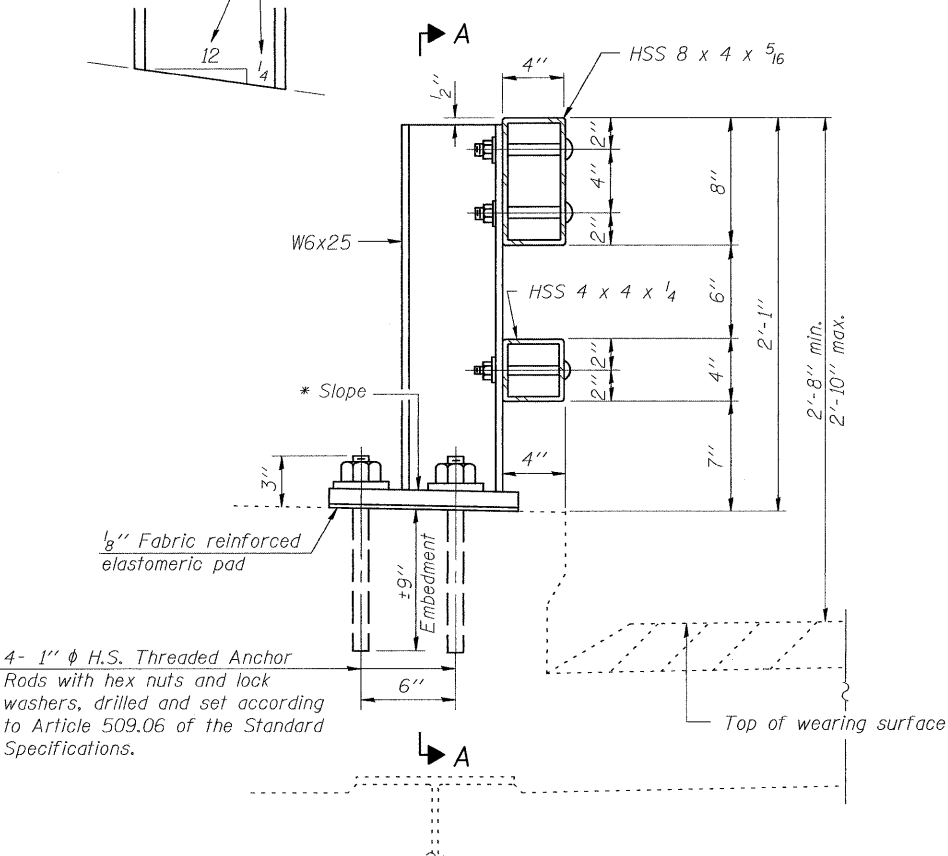
No.	Station	Face	Area (Sq. Ft.)
1	780+88	F/G	8
2	781+24	F	1.5
3	781+55	F	3
5	781+87	F	2
6	781+91	F/G	3
7	782+00	F	4
8	782+04	F	4
9	782+12	F	1
10	782+21	F/G	1
16	783+63	F	3
19	783+87	F	2
20	784+27	F	1
21	784+31	F	3
32	786+90	F	2
33	786+94	F	2
34	787+13	F	4
35	787+22	F	5
36	787+40	F	28
39	787+74	F	3
40	787+80	F	3
41	787+87	F	3
43	787+93	F	3
44	787+97	F	2
46	788+12	F	3
48	788+18	F	3
50	788+37	F	3
51	788+49	F	9
52	788+60	F	4
53	788+68	F	4
54	788+85	F	3
55	789+08	F	4.5
56	789+40	F	4
57	789+63	F	3
58	789+75	F	6
60	789+88	F	6
62	790+11	F	5
63	790+47	F	3
68	791+28	F	3
70	791+58	F	2
71	791+85	F	3
72	791+87	F	2
76	792+50	F	3
78	792+71	F	2
83	793+18	F	9
86	793+31	F	2
87	793+37	F	12
88	793+43	F	3
90	793+50	F	4.5
92	793+64	F	4
93	793+73	F	3
95	793+85	F	3
100	794+29	F	4
104	794+52	F	8
106	794+71	F	2
108	794+75	F	2
111	795+02	F	3
113	795+30	F	9
119	795+90	F	2
122	796+18	F	5

No.	Station	Face	Area (Sq. Ft.)
128	796+84	F	3
129	796+92	F	4
130	797+00	F	3
131	797+06	F	6
133	797+33	F	6
134	797+51	F	3
139	798+34	F	6
140	798+47	F	6
141	798+60	F	1
142	798+64	F	2
144	799+71	F	1
145	799+80	F	3
151	800+97	F	6
154	801+85	F	3
155	801+89	F	2
156	802+01	F	3
158	802+41	F/G	2
159	802+45	G	5
160	802+61	G	3
161	802+77	F/G	4
163	802+94	F/G	4
166	803+22	F/G	2
167	803+39	F/G	2
170	803+88	F	3
172	803+96	F	2
173	804+05	F	2
175	804+74	F	2
176	804+94	F	6
180	806+96	F/G	3
183	809+16	F/G	9
185	807+28	F	5
186	807+36	F	3
188	807+76	F	3
189	807+84	F	3
191	808+13	F	4
192	808+49	F	4
193	808+58	F/G	8
194	808+74	F	4
197	808+90	F	3
201	809+79	F	2
204	809+87	F	3
205	809+95	F	5
207	810+19	F	4
208	810+51	F	6
209	810+67	F	6
210	810+92	F	6
212	810+96	F/G	4
214	811+57	F	2
223	813+02	F	3
228	813+55	F	4
231	814+68	F/G	6
236	816+17	F/G	6
238	816+38	F	4
239	816+77	F	2
240	817+13	G	3
241	817+25	F/G	15
243	817+93	F/G	6
244	818+61	F/G	4
245	818+86	F/G	2

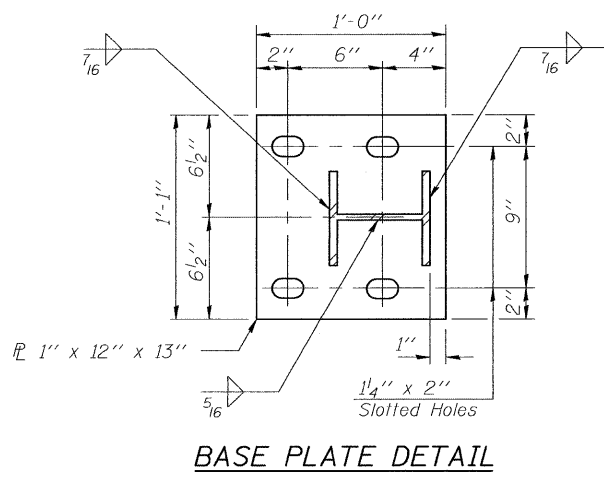
No.	Station	Face	Area (Sq. Ft.)
247	819+49	F/G	3
253	821+35	F	3
259	821+93	F	2
260	822+75	F	4
263	823+48	F	2
266	823+83	F	6
267	823+97	F	2
274	824+87	F	5
279	825+44	F	4
281	825+50	F	4
283	825+62	F	7
284	825+70	F	3
287	826+01	F	3
289	826+05	F	2
290	826+11	F	3
292	826+19	F	3
294	826+26	F	2
296	826+47	F	3
297	826+51	F	4
303	827+30	F	8
304	827+40	F	4
305	827+58	F	7
306	827+73	F	3
309	828+31	F	4
312	828+79	F	5
313	828+92	F	4
315	829+13	F	6
317	829+44	F	2
319	829+81	F	3
320	829+86	F	3
327	830+56	F	2
330	831+03	F	2
333	831+51	F	1
335	831+68	F	11
337	831+80	F	4
341	832+12	F	2
342	832+29	F	5
343	832+53	F	6
345			

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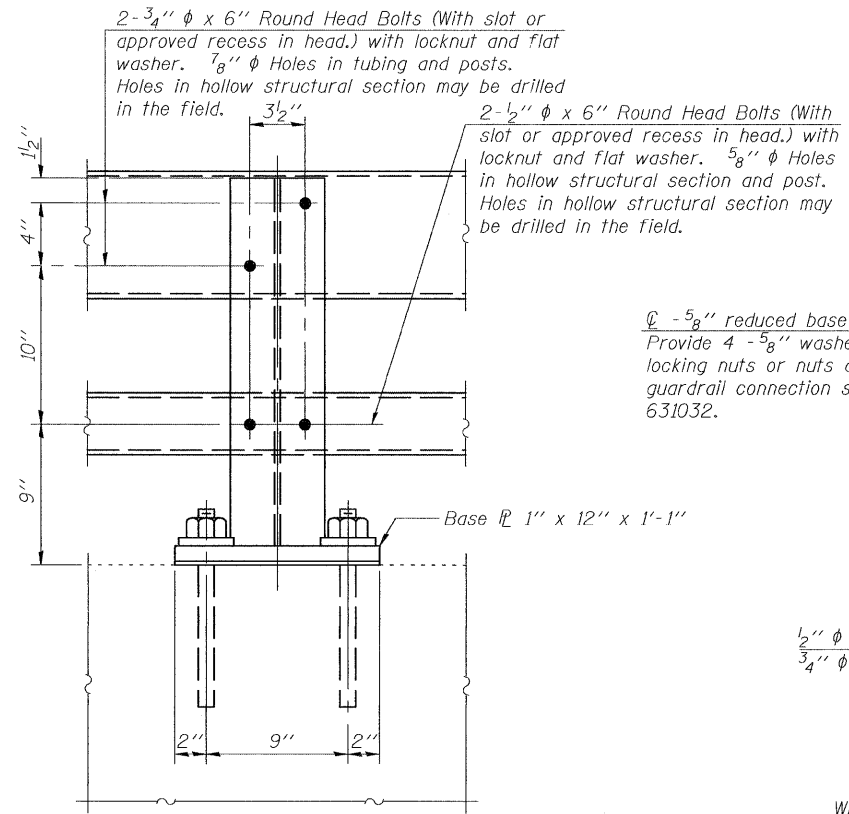
\* Cut bottom end of post to curb slope.



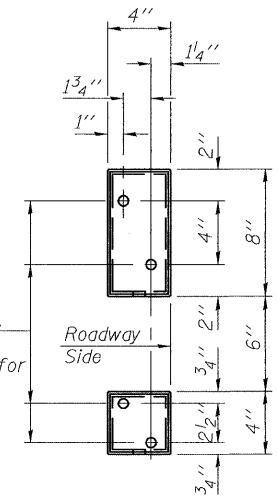
SECTION AT RAIL POST



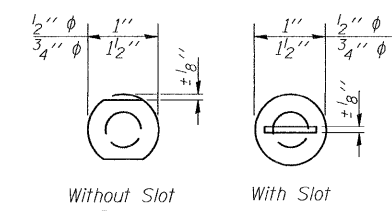
BASE PLATE DETAIL



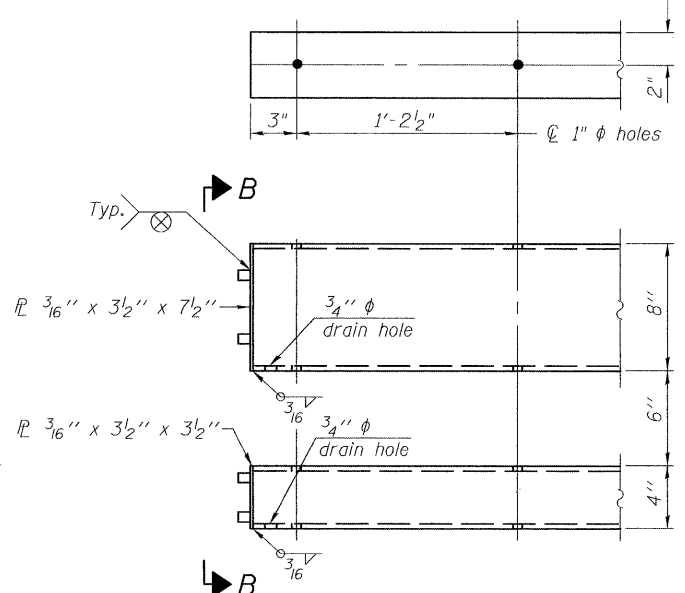
SECTION A-A



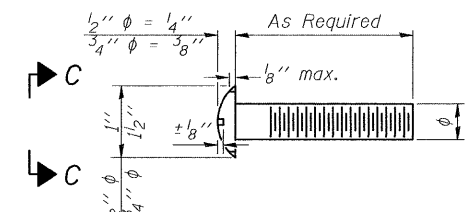
VIEW B-B



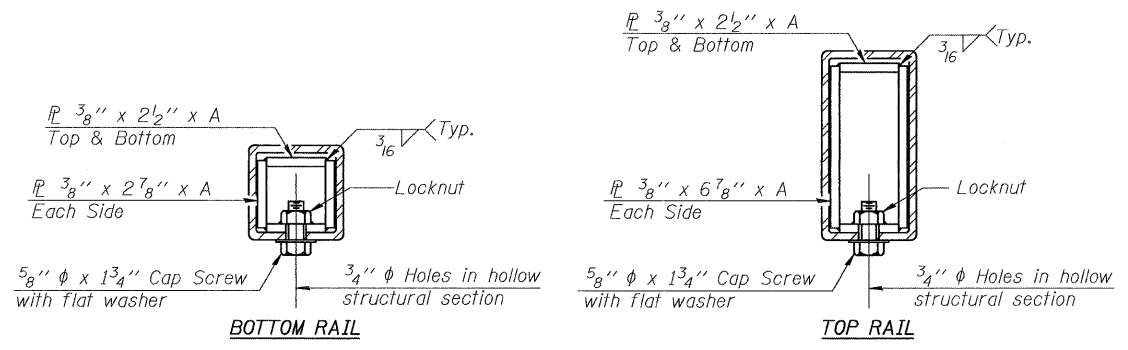
VIEW C-C



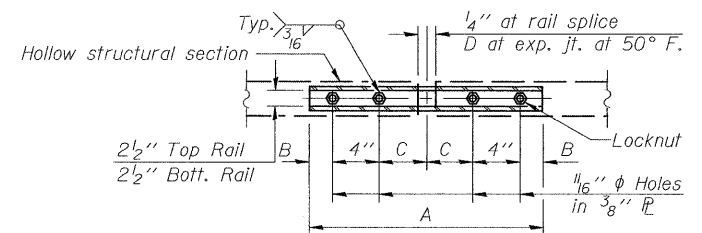
END OF RAIL DETAILS



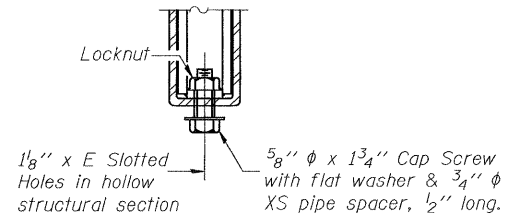
DETAIL OF 1/2"  $\phi$  & 3/4"  $\phi$  ROUND HEAD BOLTS



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



RAIL SPLICE CONNECTION AT EXPANSION JT.

Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.  
Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.  
Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

SPLICE DIMENSIONS

T	D	A	B	C	E
≤4"	2 1/2"	1'-8"	2"	4"	2 1/2"
>4" ≤6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
>6 1/2" ≤9"	5"	2'-4"	3 1/2"	6 1/2"	9"
>9" ≤13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type 2399	Foot	10,818

STEEL RAILING, TYPE 2399  
STRUCTURE NO. 060-0035

DESIGNED
CHECKED
DRAWN
CHECKED

**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 7 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 20
	CONTRACT NO. 76A92			FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

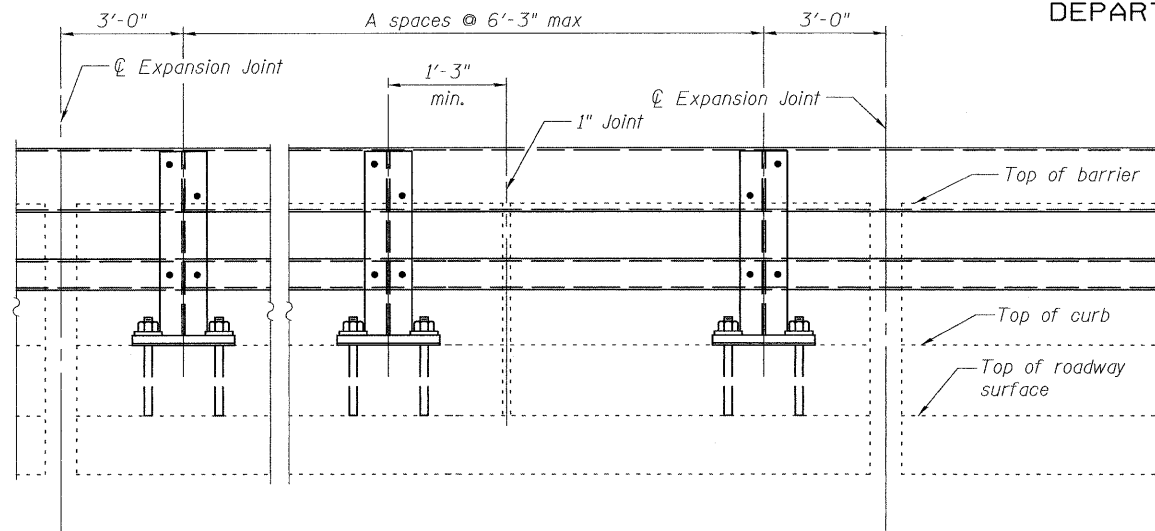
POST SPACING DIMENSIONS

WESTBOUND MEDIAN CURB

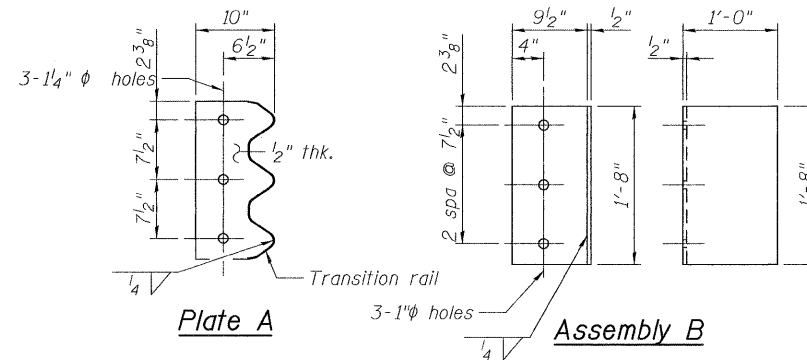
☐ of Joint near Pier No.	A
1-3	12
3-7	70
7-11	101
11-15	102
15-19	101
19-24	180
24-28	101
28-32	68
32-36	48
36-40	51
40-44	29

EASTBOUND MEDIAN CURB

☐ of Joint near Pier No.	A
1-3	12
3-7	70
7-11	100
11-15	102
15-19	101
19-24	180
24-28	102
28-32	68
32-36	48
36-40	51
40-44	29



STEEL RAILING TYPE 2399 POST LAYOUT  
(Existing tubular rail not shown for clarity)

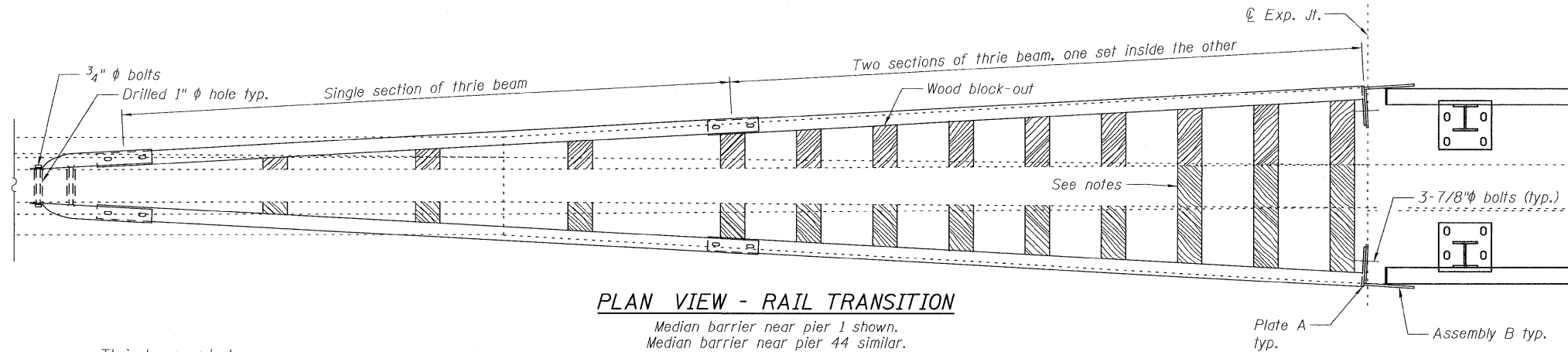


TOTAL MOVEMENT AT EXPANSION JOINTS

Pier	T
3	3 1/4"
7	6 5/8"
11	7 7/8"
15	7 7/8"
19	9 3/8"
24	12 1/2"
28	6 5/8"
32	4 5/8"
36	3 7/8"
40	2 1/2"

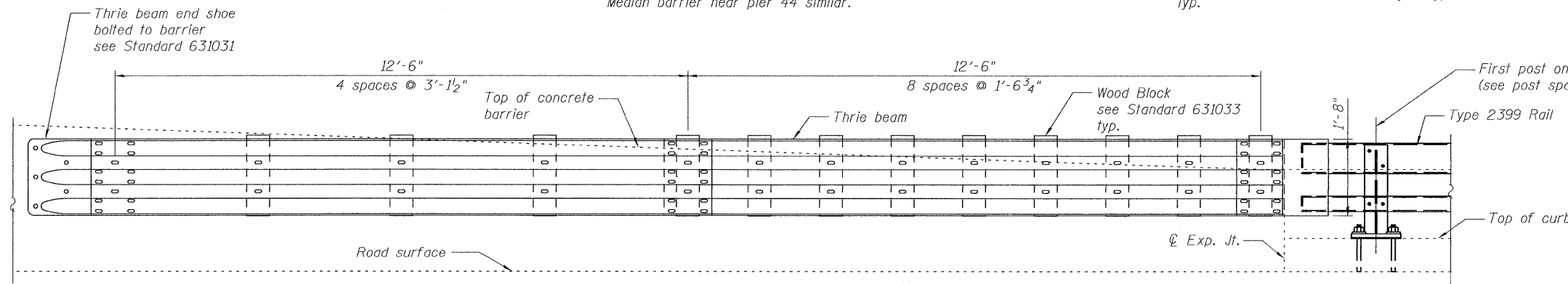
Notes:

- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to all wood block-outs.
- All field drilled holes shall be coated with an approved zinc rich paint before erection.
- All wood blocks shall be treated according to Article 1007.12 of the Standard Specifications.
- Each wood block is to be mounted to existing median barrier with a minimum of 3 - 3/4" epoxy grouted anchor bolts with standard galvanized washers.
- Wood blocks are required over the top of the barrier at the direction of the Engineer.
- Epoxy grouting of anchor bolts shall be per article 584 of the Standard Specifications.
- All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



PLAN VIEW - RAIL TRANSITION

Median barrier near pier 1 shown.  
Median barrier near pier 44 similar.



ELEVATION VIEW - RAIL TRANSITION

Median barrier near pier 1 shown.  
Median barrier near pier 44 similar.

BILL OF MATERIAL

Item	Unit	Total
Traffic Barrier Terminal Type 6, Special	Each	2

STEEL RAILING - TYPE 2399 POST LAYOUT  
STRUCTURE NO. 060-0035

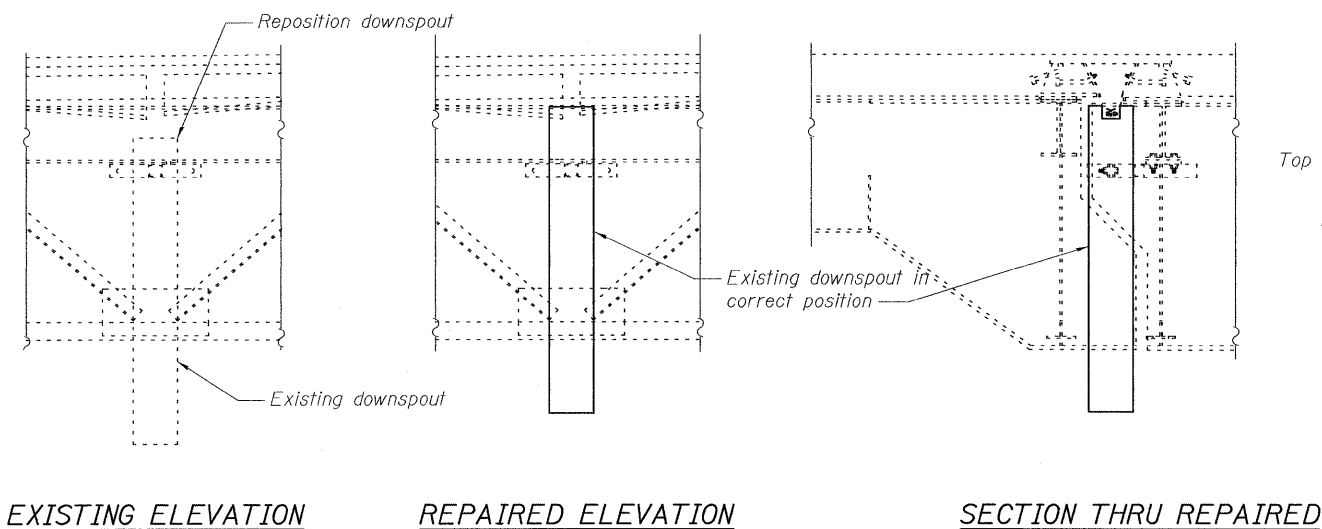
SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8	270	60B-I-8	MADISON	49	21
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

DESIGNED	TSB
CHECKED	TMB
DRAWN	TSB
CHECKED	TMB

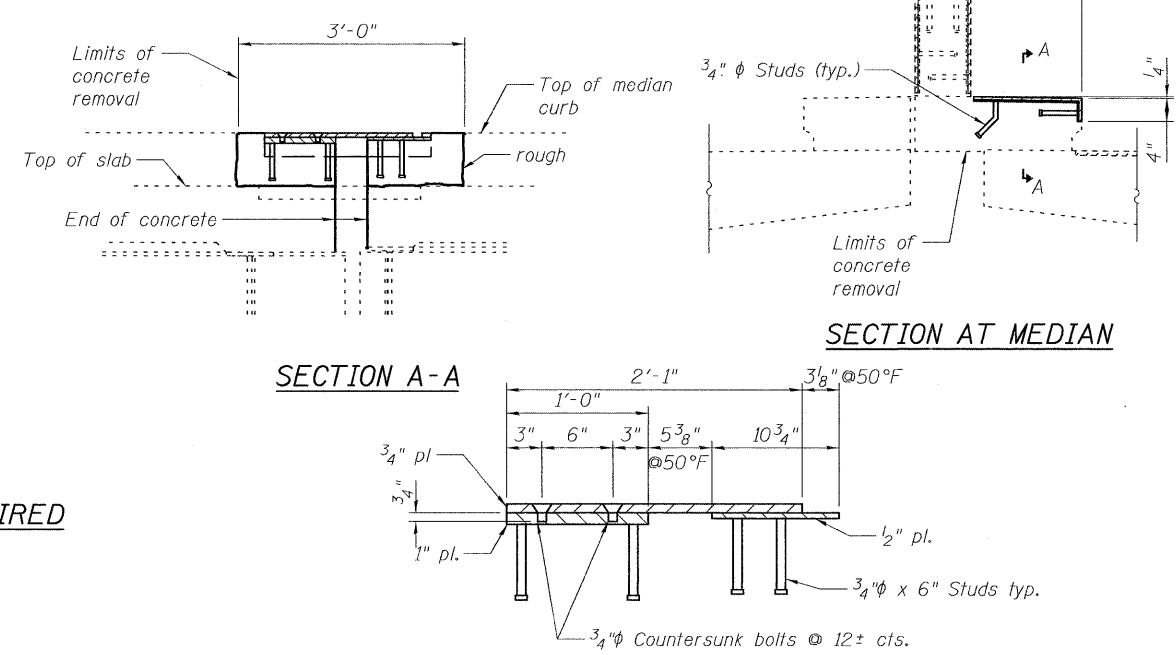


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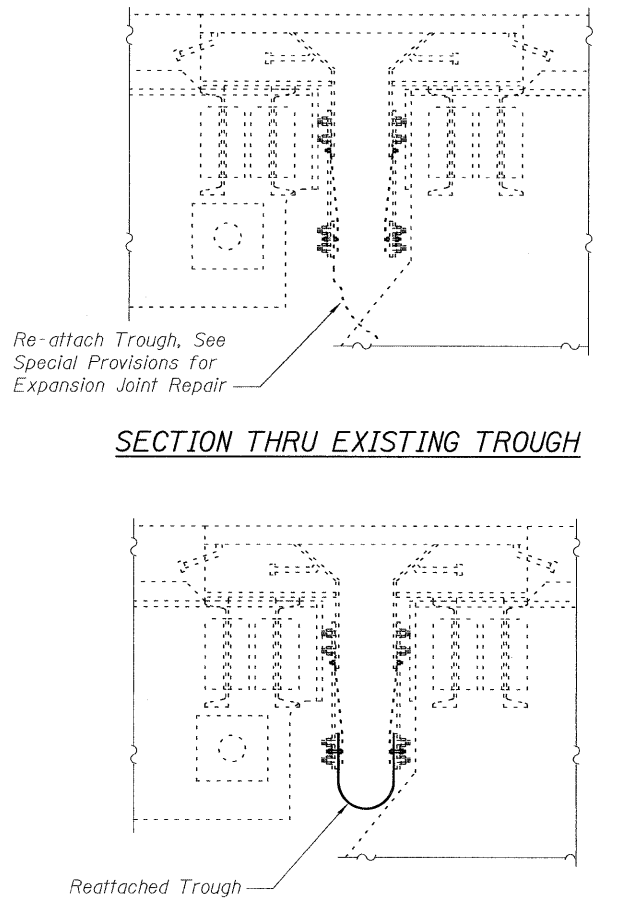
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



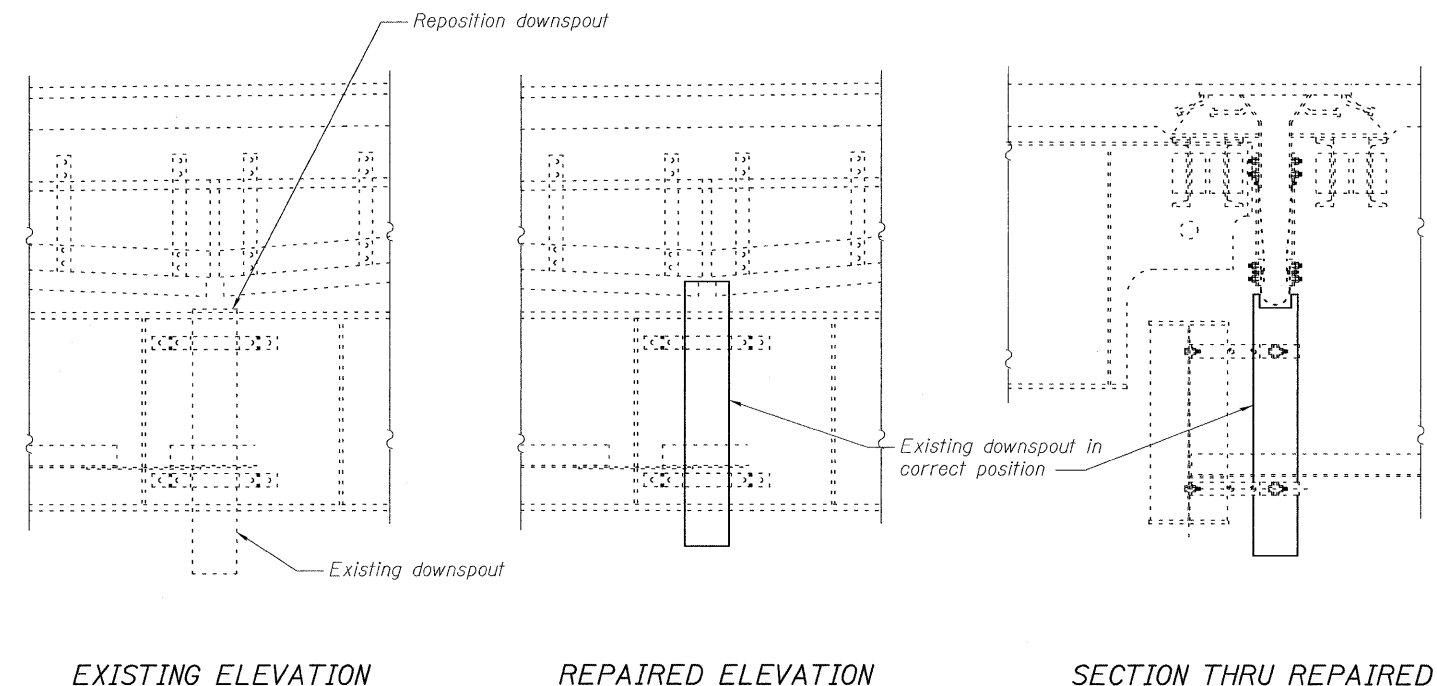
EXISTING ELEVATION      REPAIRED ELEVATION      SECTION THRU REPAIRED  
TYPICAL AT JOINT NEAR PIERS 3, 32, 36 AND 40



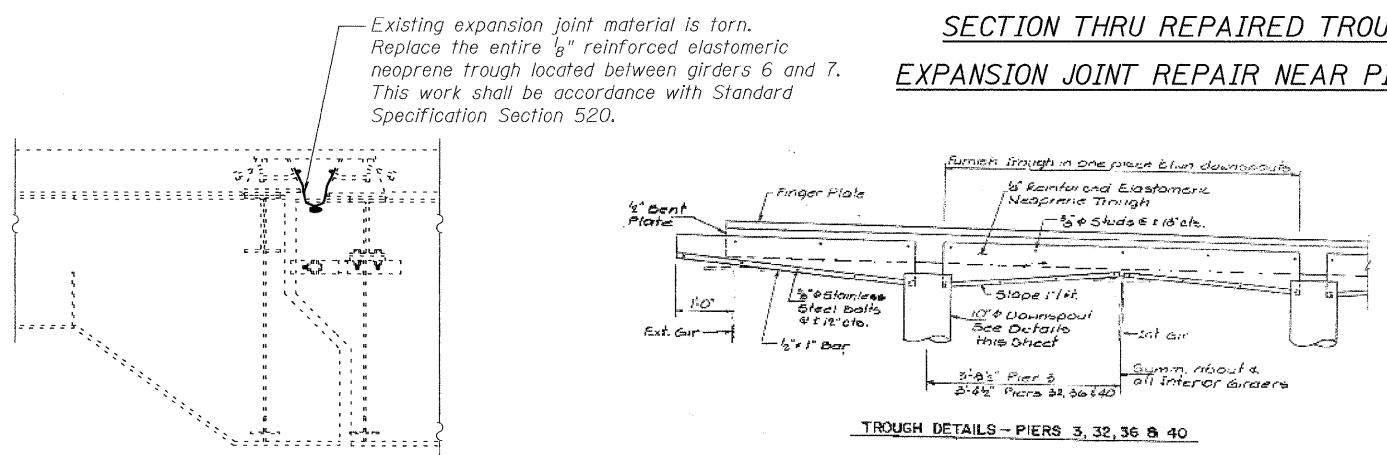
SECTION A-A  
SLIDING PLATE DETAILS  
EXPANSION JOINT REPAIR NEAR PIER 3 MEDIAN



SECTION THRU EXISTING TROUGH  
SECTION THRU REPAIRED TROUGH  
EXPANSION JOINT REPAIR NEAR PIER 19



EXISTING ELEVATION      REPAIRED ELEVATION      SECTION THRU REPAIRED  
TYPICAL AT JOINTS NEAR PIERS 7 AND 28



SECTION THRU REPAIRED TROUGH  
TROUGH DETAILS - PIERS 3, 32, 36 & 40  
ELEVATION OF TROUGH NEAR PIER 32  
EXPANSION JOINT REPAIR - PIER 32 BETWEEN GIRDERS 6 AND 7

DOWNSPOUT ADJUSTMENT

Downspouts pipes shall be adjusted to prevent leakage from drainage trough, at direction of Engineer.

BILL OF MATERIAL

Item	Unit	Total
Expansion Joint Repair	Foot	66
Downspout Adjustment	Each	38

Notes:

The Contractor shall clean all troughs and downspouts of debris and adjust downspouts as required. See Special Provisions.

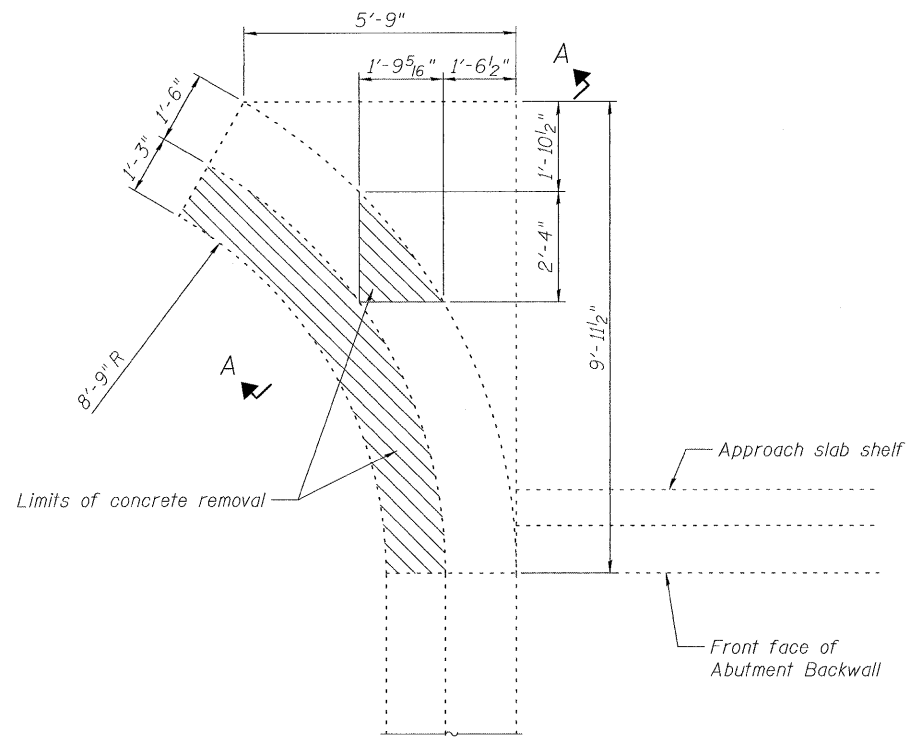
EXPANSION JOINT AND DRAINAGE REPAIR DETAILS  
STRUCTURE NO. 060-0035

SHEET NO. 9 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	22
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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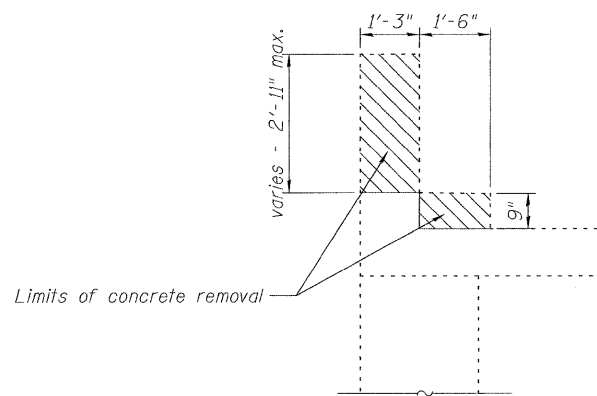
DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

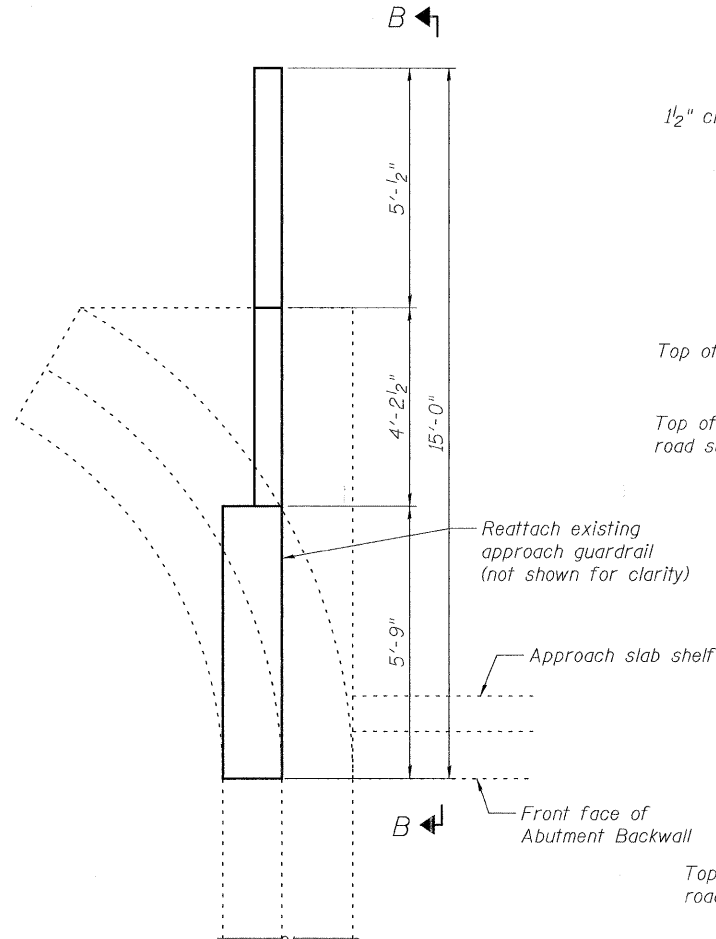


PLAN VIEW - ABUTMENT 44 - CONCRETE REMOVAL LIMITS

North wingwall shown (south wingwall similar)

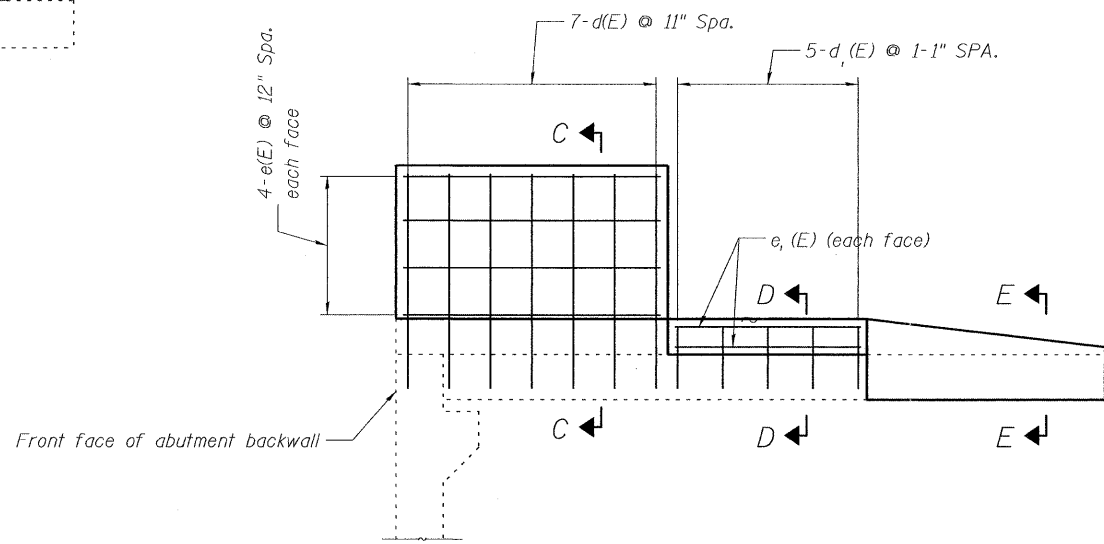


SECTION A-A

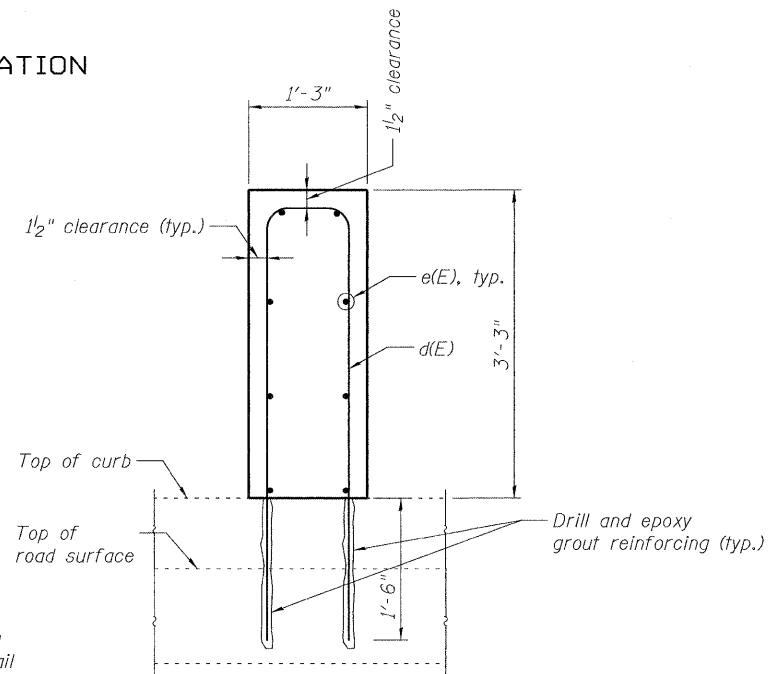


PLAN VIEW - ABUTMENT 44 NEW CONCRETE LIMITS

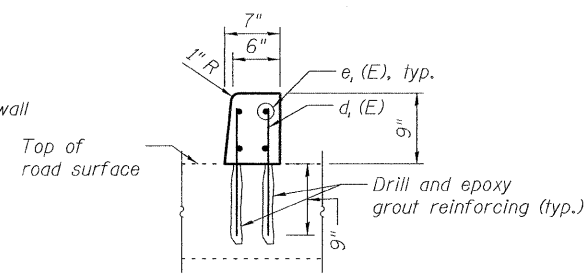
North wingwall shown (south wingwall similar)



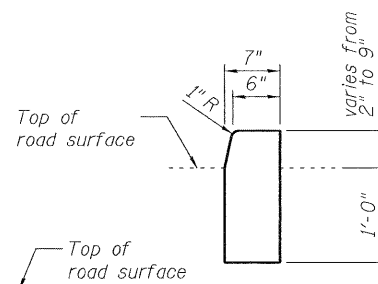
SECTION B-B



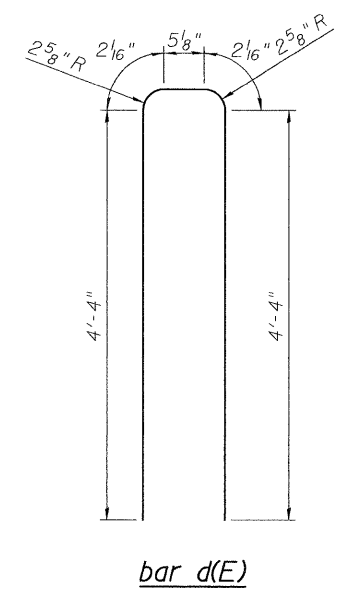
SECTION C-C



SECTION D-D



SECTION E-E



bar d(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d (E)	14	#5	9'-5 1/4"	Π
d <sub>1</sub> (E)	20	#5	1'-4"	—
e (E)	16	#4	5'-5"	—
e <sub>1</sub> (E)	8	#4	3'-10 1/2"	—
Concrete Superstructure			Cu. Yd.	3
Reinforcement Bars, Epoxy Coated			Pound	245
Concrete Removal			Cu. Yd.	3

Notes:

Existing approach guardrail shall be salvaged and reattached to the wingwall barrier. The cost is included in Concrete Superstructure.

Epoxy grouting of reinforcing shall be per article 584 of the Standard Specifications.

WINGWALL MODIFICATIONS - ABUTMENT 44  
STRUCTURE NO. 060-0035

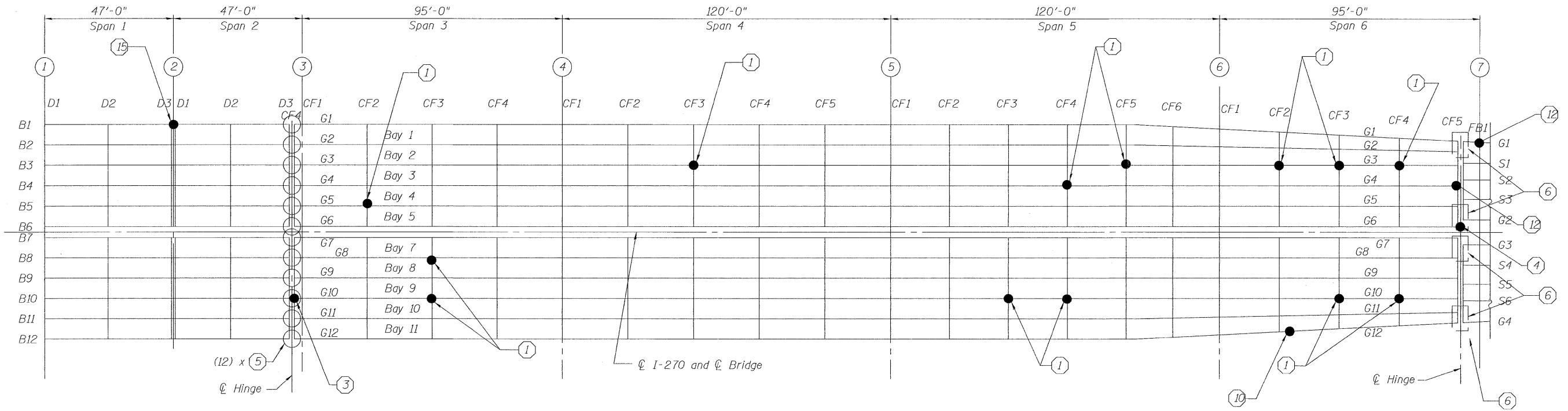
SHEET NO. 10 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	23
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

DESIGNED	TSB
CHECKED	TMB
DRAWN	TSB
CHECKED	TMB

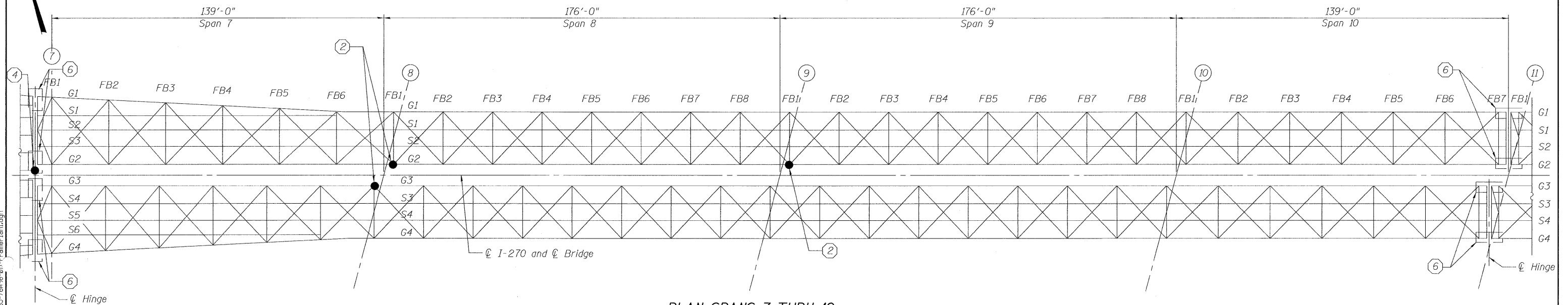


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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN SPANS 1 THRU 6



PLAN SPANS 7 THRU 10

- ① Replace loose or missing cross frame bolts, see Sht 16 of 36.
- ② Replace loose or missing bearing connection bolts, see Sht 18 of 36.
- ③ Replace missing hinge retainer nut, see Sht 17 of 36.
- ④ Replace broken grounding cable. See Standard Specification sections 806 and 1087.
- ⑤ Install Catch Beam, see Shts 21 & 22 of 36.
- ⑥ Install Seismic Restrainers, see Shts 23 thru 32 of 36.
- ⑦ Repair wind transfer device steel, see Sht 18 of 36.
- ⑧ Repair over rotated bearing, see Sht 20 of 36.
- ⑨ Replace lower lateral connection, see Sht 19 of 36.
- ⑩ Replace corroded field splice bolts, see Sht 16 of 36.
- ⑪ Replace lower lateral connection bolt, see Sht 16 of 36.
- ⑫ Replace loose floor beam to stringer bolt, see Sht 16 of 36.
- ⑬ Replace loose splice plate bolt, see Sht 16 of 36.
- ⑭ Replace bolts with missing nuts, see Sht 16 of 36.
- ⑮ Repair bearing stiffener, see Sht 17 of 36.
- ⑯ Replace bolts and plates at lower lateral connection, see Sht 19 of 36.
- ⑰ Install new shim plate, see Sht 20 of 36.

Notes:

Cost of repairing broken ground cable is included with Structural Steel Repair.

FRAMING PLAN SPANS 1 THRU 10  
STRUCTURE NO. 060-0035

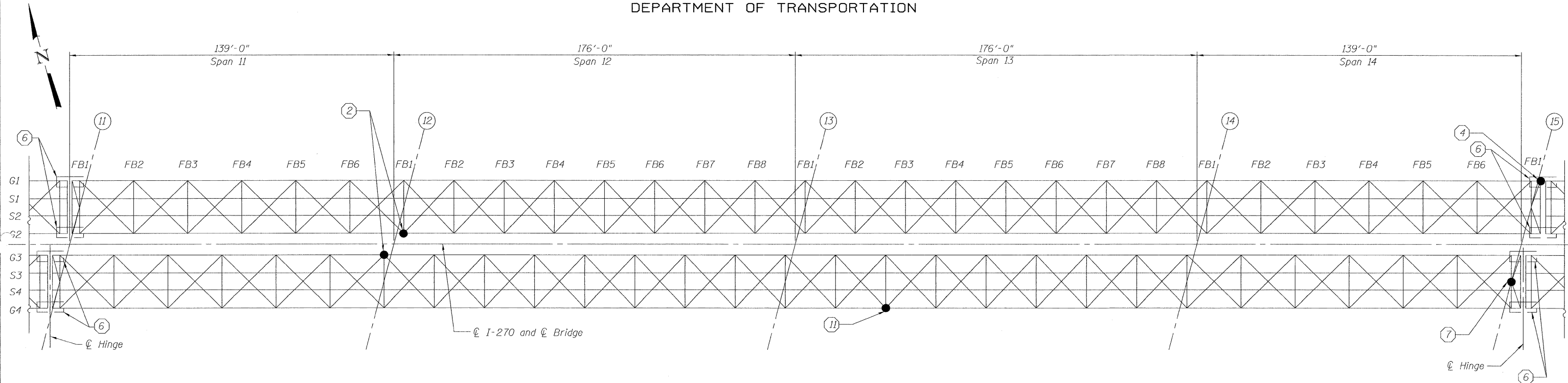
DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



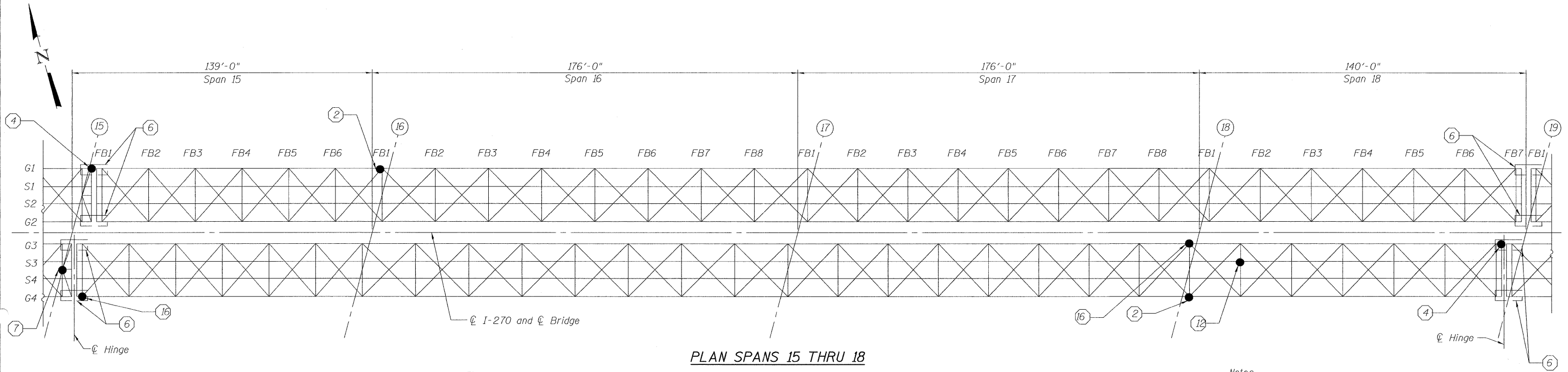
SHEET NO. 11 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 24
	CONTRACT NO. 76A92				
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN SPANS 11 THRU 14



PLAN SPANS 15 THRU 18

- ① Replace loose or missing cross frame bolts, see Sht 16 of 36.
- ② Replace loose or missing bearing connection bolts, see Sht 18 of 36.
- ③ Replace missing hinge retainer nut, see Sht 17 of 36.
- ④ Replace broken grounding cable. See Standard Specification sections 806 and 1087.
- ⑤ Install Catch Beam, see Shts 21 & 22 of 36.
- ⑥ Install Seismic Restrainers, see Shts 23 thru 32 of 36.
- ⑦ Repair wind transfer device steel, see Sht 18 of 36.
- ⑧ Repair over rotated bearing, see Sht 20 of 36.
- ⑨ Replace lower lateral connection, see Sht 19 of 36.
- ⑩ Replace corroded field splice bolts, see Sht 16 of 36.
- ⑪ Replace lower lateral connection bolt, see Sht 16 of 36.
- ⑫ Replace loose floor beam to stringer bolt, see Sht 16 of 36.
- ⑬ Replace loose splice plate bolt, see Sht 16 of 36.
- ⑭ Replace bolts with missing nuts, see Sht 16 of 36.
- ⑮ Repair bearing stiffener, see Sht 17 of 36.
- ⑯ Replace bolts and plates at lower lateral connection, see Sht 19 of 36.
- ⑰ Install new shim plate, see Sht 20 of 36.

Notes:

Cost of repairing broken ground cable is included with Structural Steel Repair.

FRAMING PLAN SPANS 11 THRU 18  
STRUCTURE NO. 060-0035

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

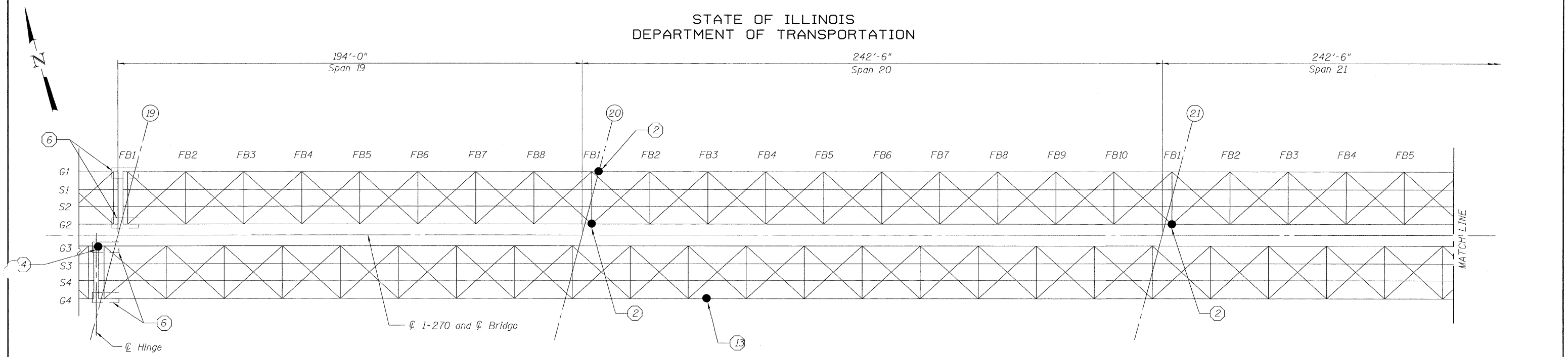


**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

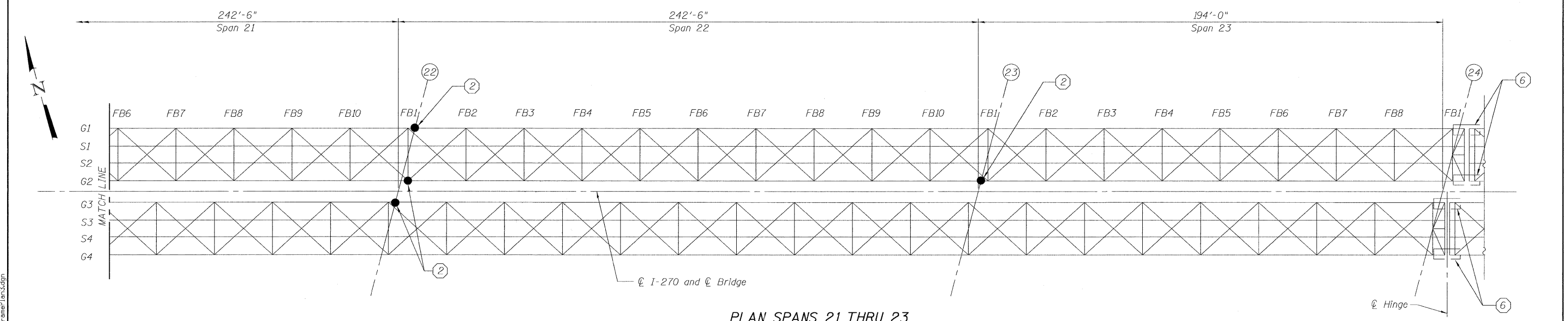
SHEET NO. 12 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	25
CONTRACT NO. 76A92					
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN SPANS 19 THRU 21



PLAN SPANS 21 THRU 23

- ① Replace loose or missing cross frame bolts, see Sht 16 of 36.
- ② Replace loose or missing bearing connection bolts, see Sht 18 of 36.
- ③ Replace missing hinge retainer nut, see Sht 17 of 36.
- ④ Replace broken grounding cable. See Standard Specification sections 806 and 1087.
- ⑤ Install Catch Beam, see Shts 21 & 22 of 36.
- ⑥ Install Seismic Restrainers, see Shts 23 thru 32 of 36.
- ⑦ Repair wind transfer device steel, see Sht 18 of 36.
- ⑧ Repair over rotated bearing, see Sht 20 of 36.
- ⑨ Replace lower lateral connection, see Sht 19 of 36.
- ⑩ Replace corroded field splice bolts, see Sht 16 of 36.
- ⑪ Replace lower lateral connection bolt, see Sht 16 of 36.
- ⑫ Replace loose floor beam to stringer bolt, see Sht 16 of 36.
- ⑬ Replace loose splice plate bolt, see Sht 16 of 36.
- ⑭ Replace bolts with missing nuts, see Sht 16 of 36.
- ⑮ Repair bearing stiffener, see Sht 17 of 36.
- ⑯ Replace bolts and plates at lower lateral connection, see Sht 19 of 36.
- ⑰ Install new shim plate, see Sht 20 of 36.

Notes:

Cost of repairing broken ground cable is included with Structural Steel Repair.

FRAMING PLAN SPANS 19 THRU 23  
STRUCTURE NO. 060-0035

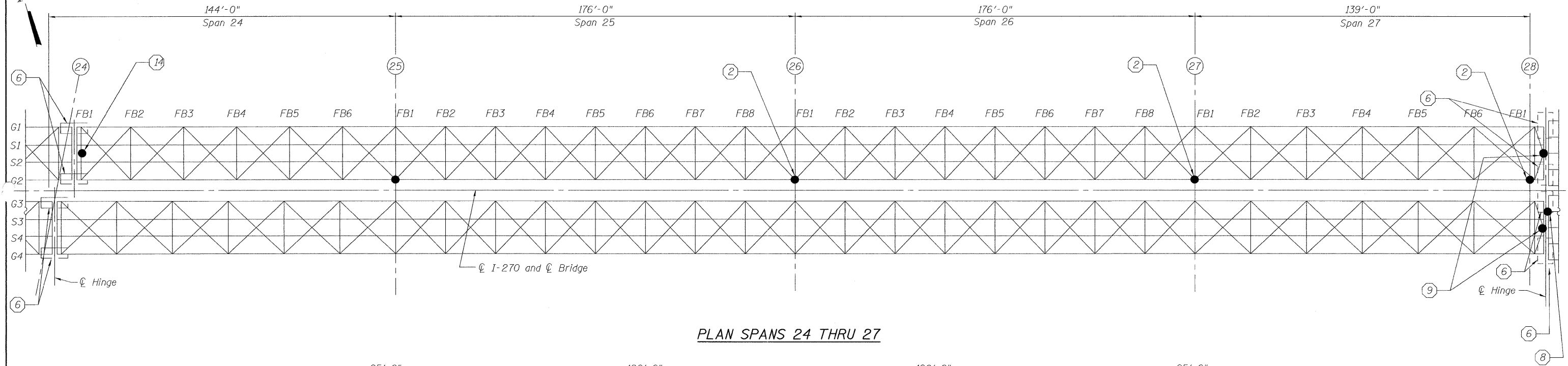
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CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



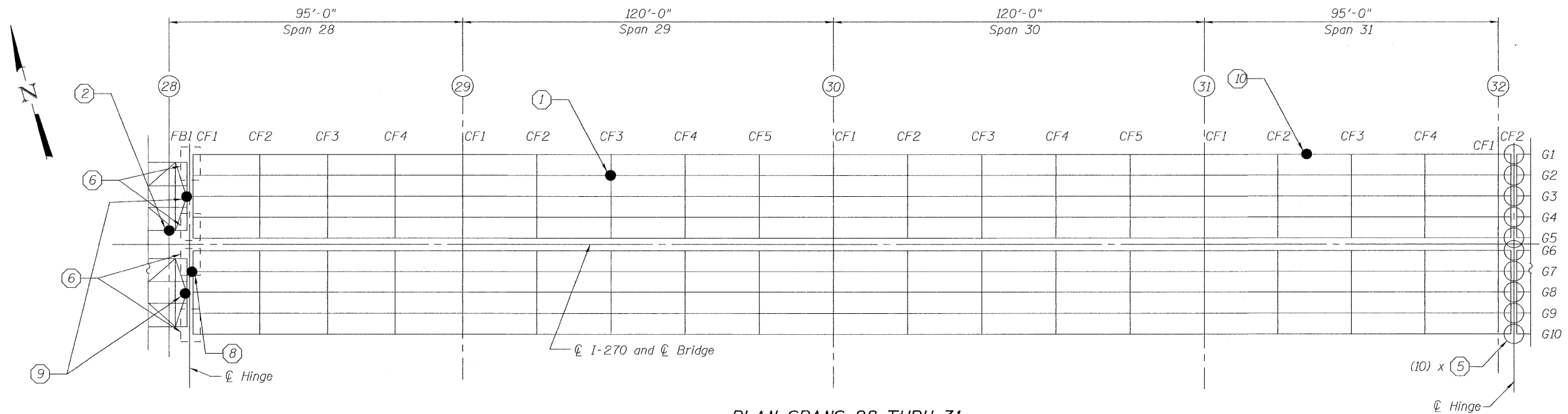
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			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN SPANS 24 THRU 27



PLAN SPANS 28 THRU 31

- ① Replace loose or missing cross frame bolts, see Sht 16 of 36.
- ② Replace loose or missing bearing connection bolts, see Sht 18 of 36.
- ③ Replace missing hinge retainer nut, see Sht 17 of 36.
- ④ Replace broken grounding cable. See Standard Specification sections 806 and 1087.
- ⑤ Install Catch Beam, see Shts 21 & 22 of 36.
- ⑥ Install Seismic Restrainers, see Shts 23 thru 32 of 36.
- ⑦ Repair wind transfer device steel, see Sht 18 of 36.
- ⑧ Repair over rotated bearing, see Sht 20 of 36.
- ⑨ Replace lower lateral connection, see Sht 19 of 36.
- ⑩ Replace corroded field splice bolts, see Sht 16 of 36.
- ⑪ Replace lower lateral connection bolt, see Sht 16 of 36.
- ⑫ Replace loose floor beam to stringer bolt, see Sht 16 of 36.
- ⑬ Replace loose splice plate bolt, see Sht 16 of 36.
- ⑭ Replace bolts with missing nuts, see Sht 16 of 36.
- ⑮ Repair bearing stiffener, see Sht 17 of 36.
- ⑯ Replace bolts and plates at lower lateral connection, see Sht 19 of 36.
- ⑰ Install new shim plate, see Sht 20 of 36.

Notes:

Cost of repairing broken ground cable is included with Structural Steel Repair.

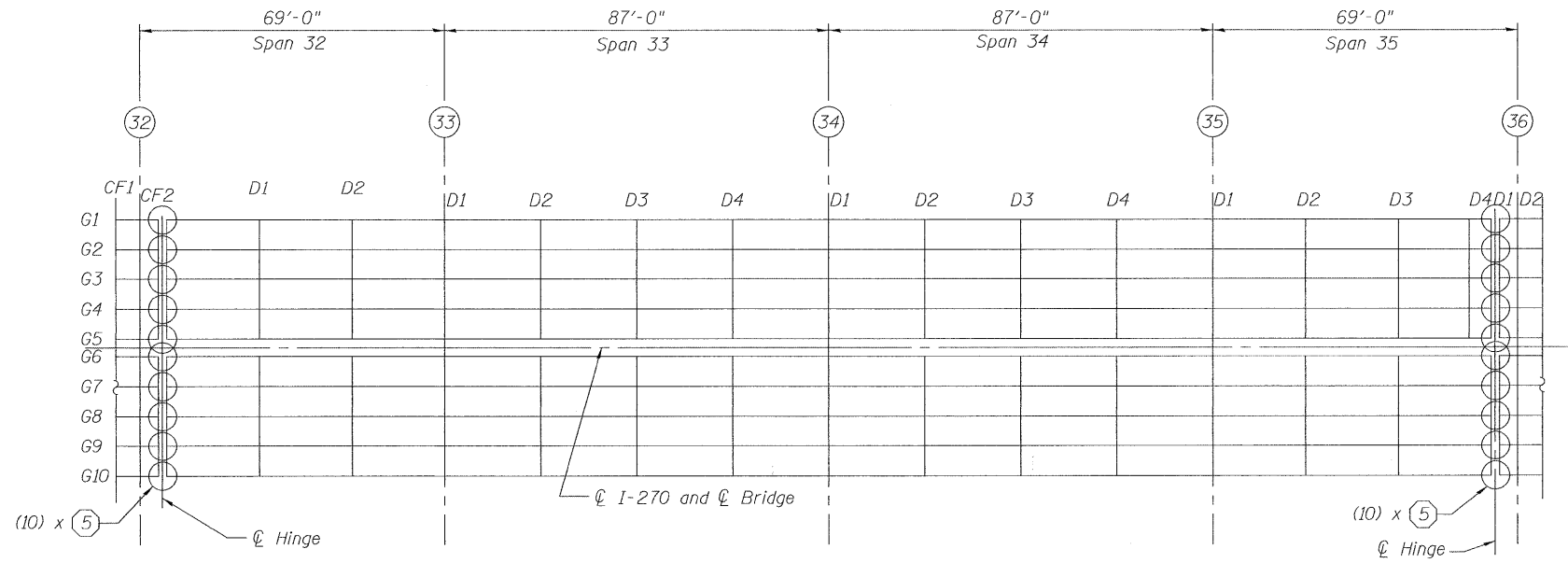
FRAMING PLAN SPANS 24 THRU 31  
STRUCTURE NO. 060-0035

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

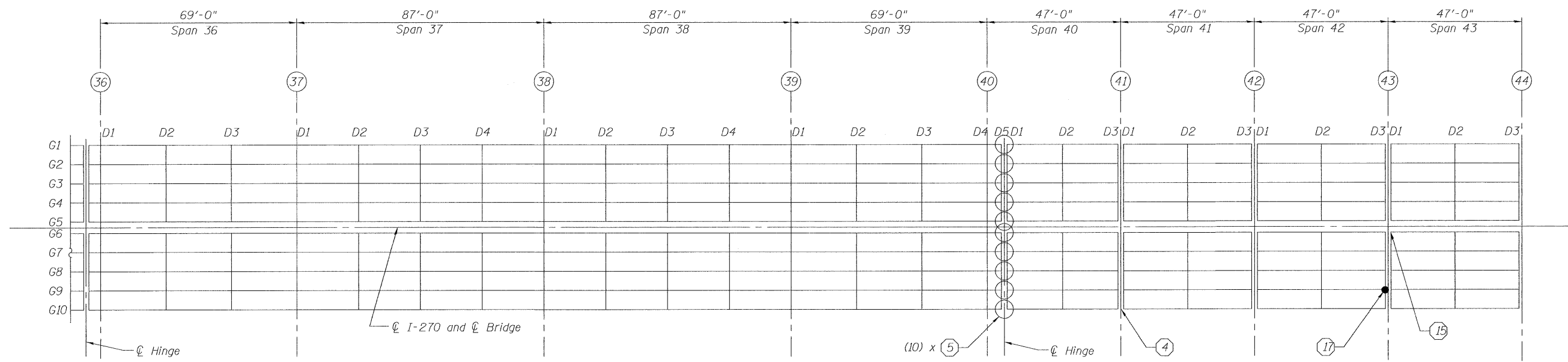


SHEET NO. 14 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	27
CONTRACT NO. 76A92					
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN SPANS 32 THRU 35



PLAN SPANS 36 THRU 43

- ① Replace loose or missing cross frame bolts, see Sht 16 of 36.
- ② Replace loose or missing bearing connection bolts, see Sht 18 of 36.
- ③ Replace missing hinge retainer nut, see Sht 17 of 36.
- ④ Replace broken grounding cable. See Standard Specification sections 806 and 1087.
- ⑤ Install Catch Beam, see Shts 21 & 22 of 36.
- ⑥ Install Seismic Restrainers, see Shts 23 thru 32 of 36.
- ⑦ Repair wind transfer device steel, see Sht 18 of 36.
- ⑧ Repair over rotated bearing, see Sht 20 of 36.
- ⑨ Replace lower lateral connection, see Sht 19 of 36.
- ⑩ Replace corroded field splice bolts, see Sht 16 of 36.
- ⑪ Replace lower lateral connection bolt, see Sht 16 of 36.
- ⑫ Replace loose floor beam to stringer bolt, see Sht 16 of 36.
- ⑬ Replace loose splice plate bolt, see Sht 16 of 36.
- ⑭ Replace bolts with missing nuts, see Sht 16 of 36.
- ⑮ Repair bearing stiffener, see Sht 17 of 36.
- ⑯ Replace bolts and plates at lower lateral connection, see Sht 19 of 36.
- ⑰ Install new shim plate, see Sht 20 of 36.

Notes:

Cost of repairing broken ground cable is included with Structural Steel Repair.

FRAMING PLAN SPANS 32 THRU 43  
STRUCTURE NO. 060-0035

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



SHEET NO. 15	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	28
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

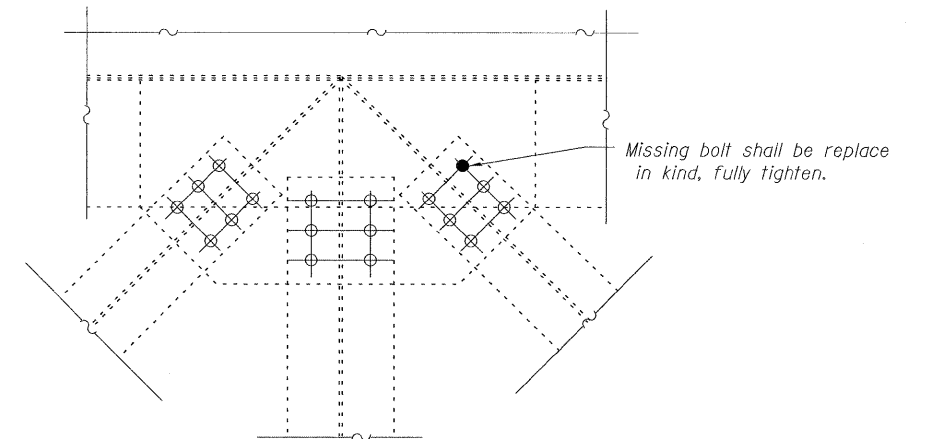
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LOOSE OR MISSING BOLT LOCATIONS

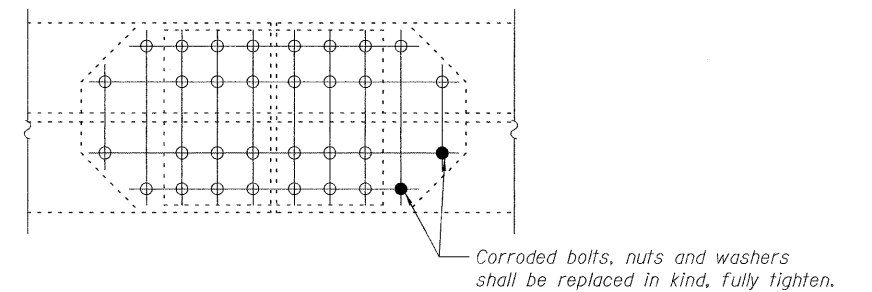
Span	CF #	Bay	Girder No.	Floor Beam No.	No. of Bolts	Remarks
3	2	4	5	-	3	
3	3	8	8	-	1	
3	3	9	10	-	3	
4	3	3	3	-	3	
5	3	9	10	-	3	
5	4	3	4	-	3	
5	4	10	10	-	1	
5	5	3	3	-	1	
6	4	9	10	-	2	
6	2	3	3	-	3	
6	3	3	3	-	3	
6	3	9	10	-	3	
6	4	3	3	-	3	
6	-	-	4	-	4	Corroded bolts and nuts below joint at pier 7.
6	-	-	1	1	4	Broken nuts to be replaced are located at FB1 and Girder 1.
6	-	-	12	-	2	Corroded bolts located in the field splice.
18	-	-	S3	2	1	Replace 1 loose bolt at stringer 3 to floor beam 2 connection.
20	-	-	4	3	1	Bolt is located in splice plate 10' north of FB3
24	-	-	-	-	1	Replace bolts that have missing nuts. Located on the wind tongue btwn. FB1 and FB2.
29	3	2	2	-	1	
31	-	-	1	-	2	Corroded bolts located in the field splice.

Note: If any additional loose, broken, missing or severely corroded bolts not listed are encountered, the Contractor shall also replace those bolts, As approved by the Engineer. See Special Provisions.



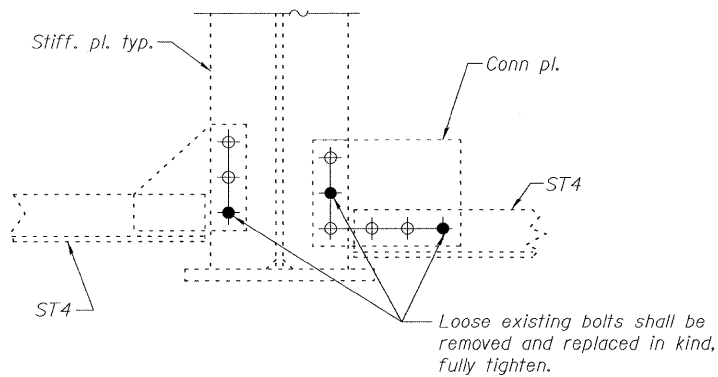
MISSING BOLT REPLACEMENT

Span 13 - Lateral Bracing F.B.3 @ Girder 4

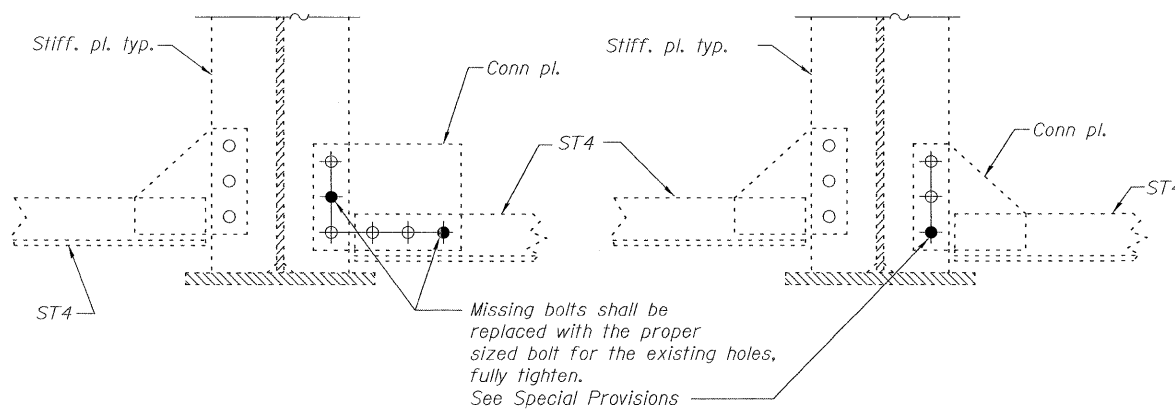


CORRODED BOLT REPLACEMENT

Span 6 - Girder 12 - Field splice on bottom flange  
Span 31 - Girder 1 - Field splice on bottom flange



LOOSE BOLTS



MISSING BOLT REPLACEMENT

BILL OF MATERIAL

Item	Unit	Total
Bolt Replacement	Each	48

STEEL REPAIR DETAILS - 1  
STRUCTURE NO. 060-0035

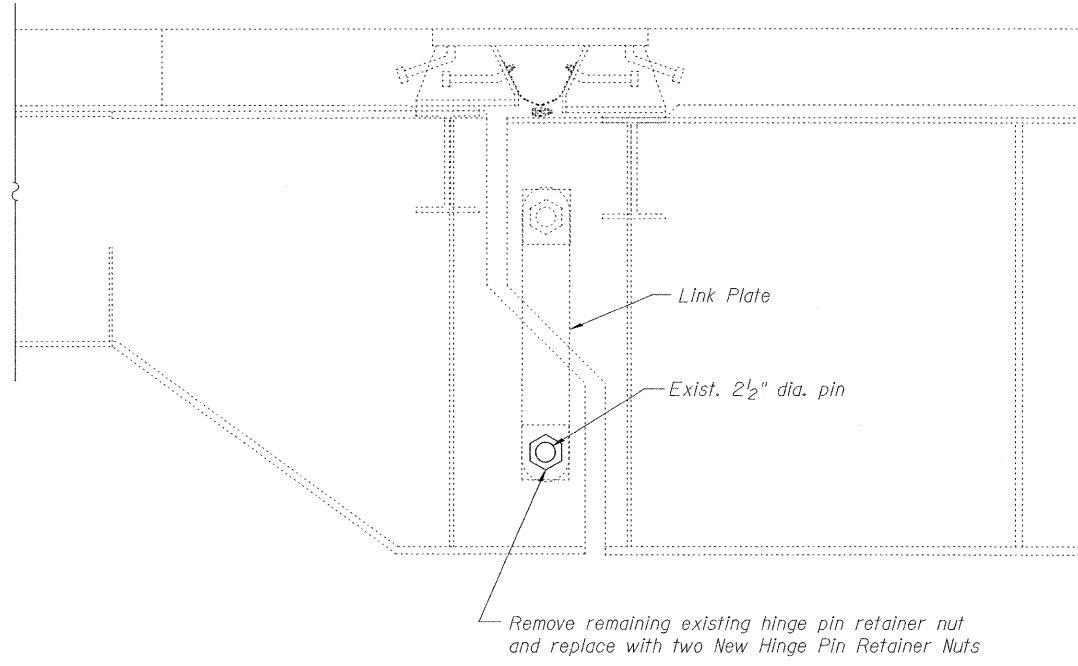
DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

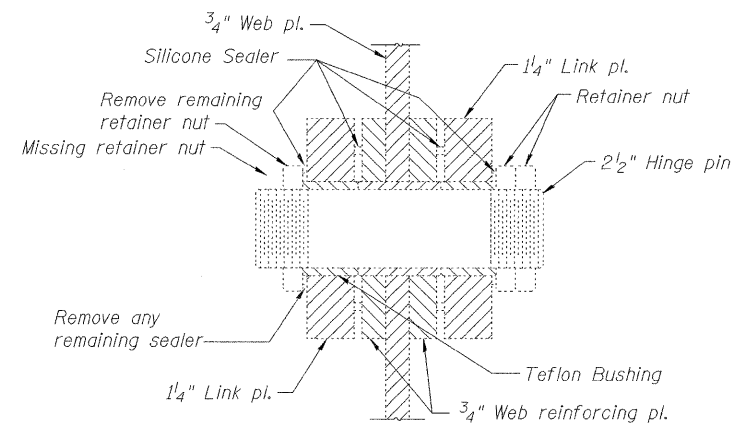
SHEET NO. 16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	29
36 SHEETS		CONTRACT NO. 76A92			
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

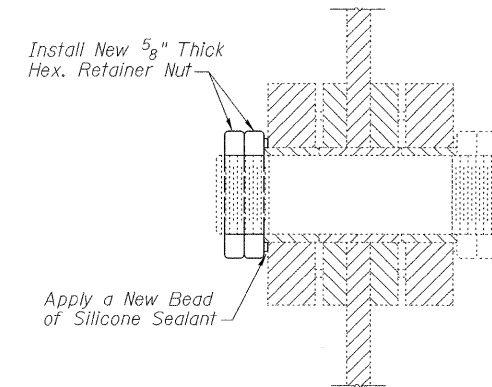


ELEVATION - HINGE NEAR PIER 3 - BEAM B10



SECTION THRU EXISTING HINGE PIN

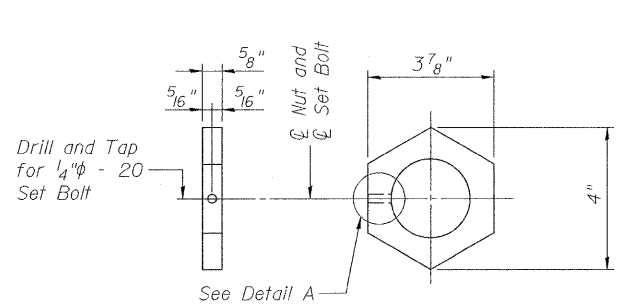
Remove remaining retainer nut, with out damaging retainer pin threads or dislodging link pin.



For details not shown, see "Section Thru Existing Hinge Pin".

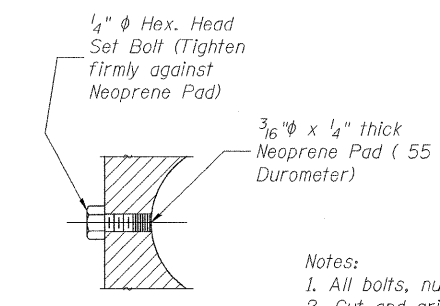
SECTION THRU MODIFIED HINGE PIN

Clean surface of link plate and repair any painted surface damaged during the retainer nut removal.  
Install new retainer nuts. Tighten inside nut to bring all bushing into firm contact, then back off 1/4 turn and tighten outer nut.  
Apply a bead of silicone sealant around nuts after installation.  
Silicone sealant shall be suitable for prolonged exterior exposure with out losing flexibility or adhesion to painted steel surfaces. Proposed products shall be subject to the Department's acceptance based on documented testing or other evidence.



RETAINER NUT DETAIL

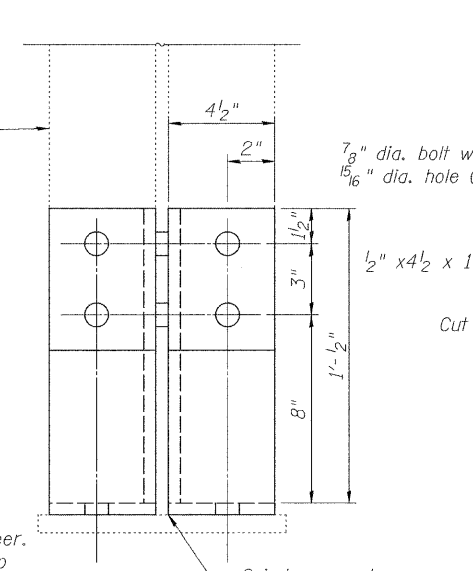
Material for new nut shall be ASTM A-576 Grade 12L14. (2 Required)



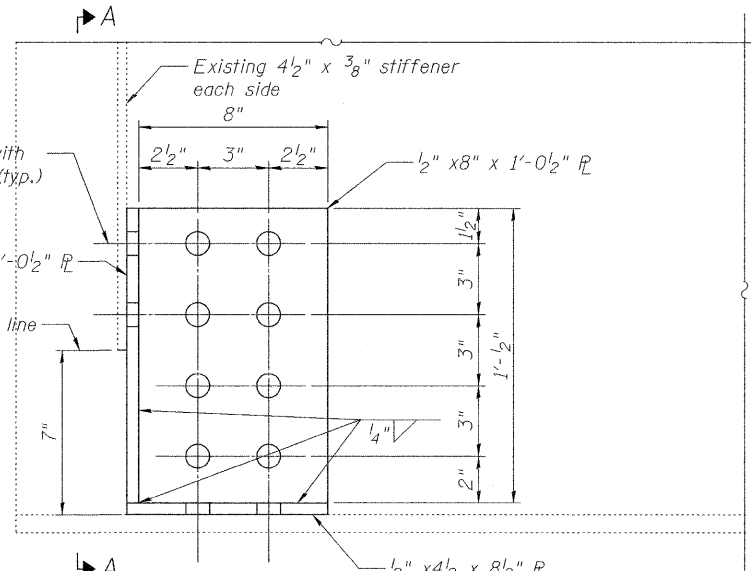
DETAIL A

Set Bolts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Existing 4 1/2 inch x 3/8 inch stiffener each side



SECTION A-A



ELEVATION

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pounds	125

BEARING STIFFENER REPAIR

Span 1 - Pier 2 - Beam 1 - both bearing stiffeners as shown  
Span 42 - Pier 43 - Beam 6 - one bearing stiffener only

STEEL REPAIR DETAILS - 2  
STRUCTURE NO. 060-0035

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
17	270	60B-I-8	MADISON	49	30
36 SHEETS					
CONTRACT NO. 76A92					
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

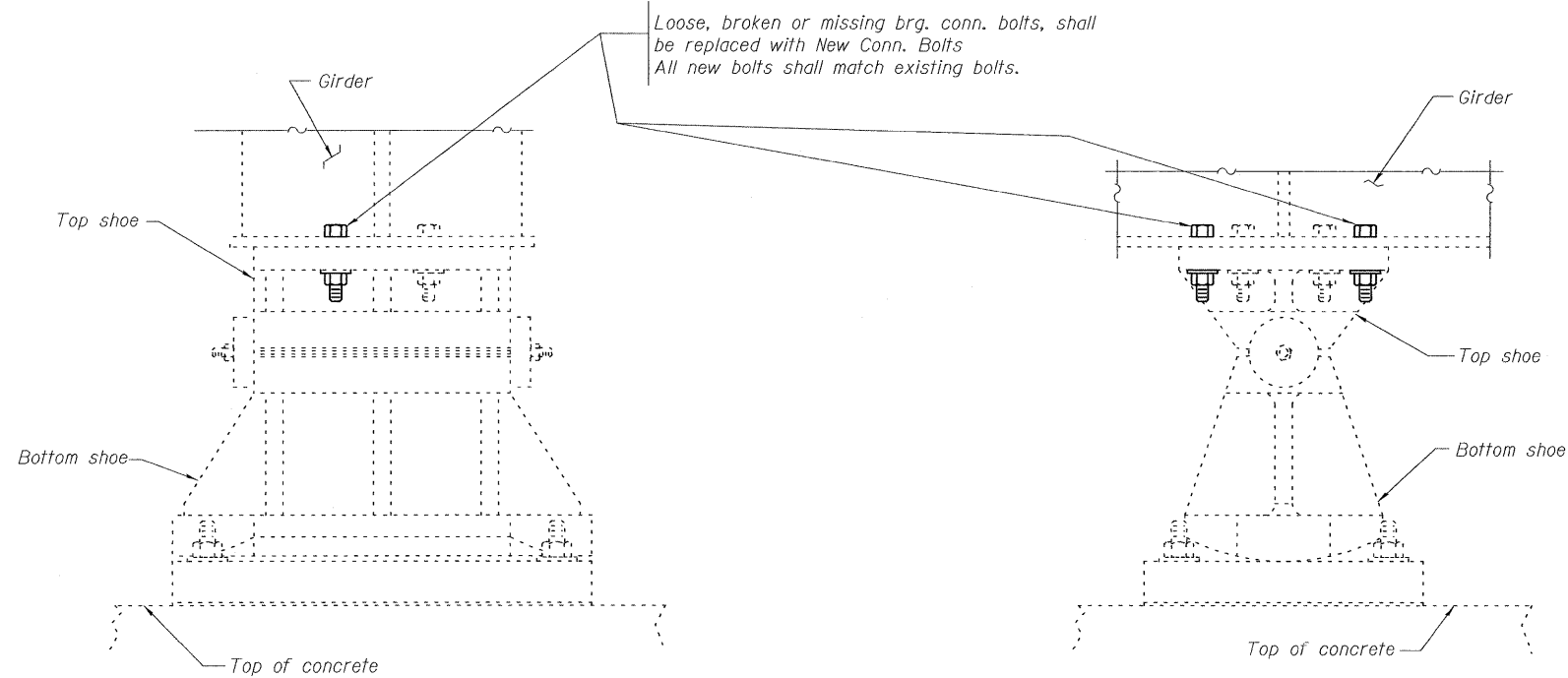
- Notes:
- All bolts, nuts and washers shall be ASTM A325
  - Cut and grind existing stiffener to sound material.
  - The minimum distance from cut to face of web shall be the larger of 1/4" or web to plate weld size, with removal of remaining material by grinding as described below. The cut shall be made parallel to the web without angling the cut towards the web. Equipment and method of cutting shall be approved by the Engineer. Any method of removal to be used shall ensure that no damage is done to the existing web, vertical stiffener or welds connecting these elements. Cutting shall be done in a manner such that the paint on the opposite face of the web is not damaged. If damage occurs, the damaged area shall be repainted at the contractor's expense and procedures shall be modified to prevent damage at subsequent removal locations.
  - Remove material between cut and web by grinding and grind smooth at web surface and cut end of stiffener. Web flange surfaces and cut end of stiffener shall have a roughness average (Ra) of 250 μ in. or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web flange.
  - The web surface at the modification shall be inspected using dye penetrant or magnetic particle (MT) methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.
  - The exposed steel surfaces shall be cleaned and painted using an aluminum epoxy mastic primer according to Article 506.05 of the Standard Specifications.
  - Dimension shown is approximate to the cut line. Field verify.

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



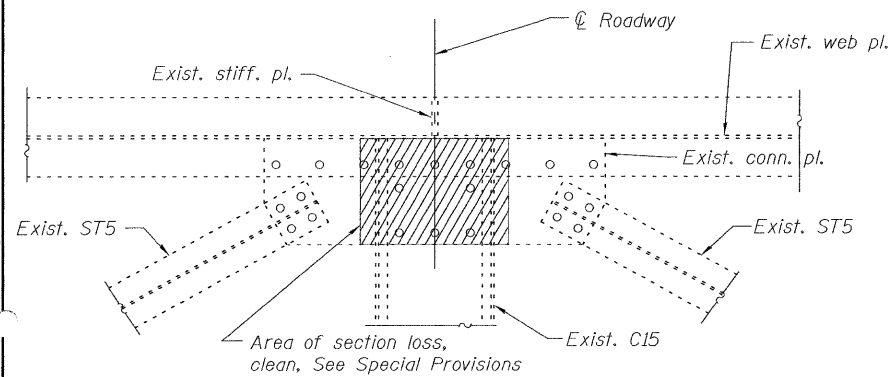
REPLACEMENT OF LOOSE OR MISSING BEARING CONNECTION BOLT

LOOSE OR MISSING BEARING BOLT LOCATIONS			
Pier	Girder No.	No. of Bolts	Remarks
8	3	3	
8	2	1	
9	2	2	
12	3	1	
16	1	1	
18	4	1	
20	2	2	
21	2	1	
22	2	1	
22	3	1	
25	2	1	
26	2	2	
27	2	1	
28	2	1	
20	1	1	
22	3	1	
22	1	1	
23	2	1	
34	4	1	

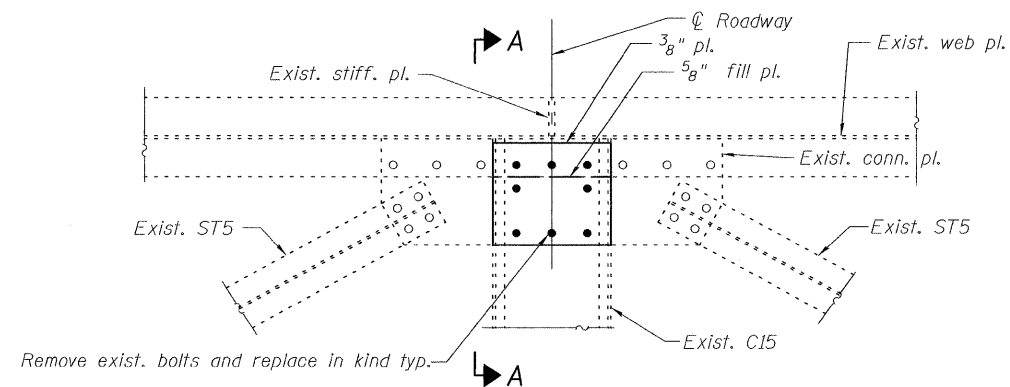
Note: If any additional loose, broken, missing or severely corroded bolts not listed are encountered, the Contractor shall also replace those bolts, as approved by the Engineer.

BILL OF MATERIAL

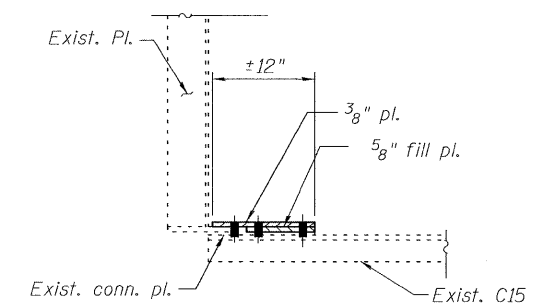
Item	Unit	Total
Bolt Replacement	Each	24
Structural Steel Repair	Pounds	40



EXISTING WIND TRANSFER DEVICE AT PIER 15



REPAIRED WIND TRANSFER DEVICE AT PIER 15



SECTION A-A

Note: Exist ST5 not shown for clarity.

STEEL REPAIR DETAILS - 3  
STRUCTURE NO. 060-0035

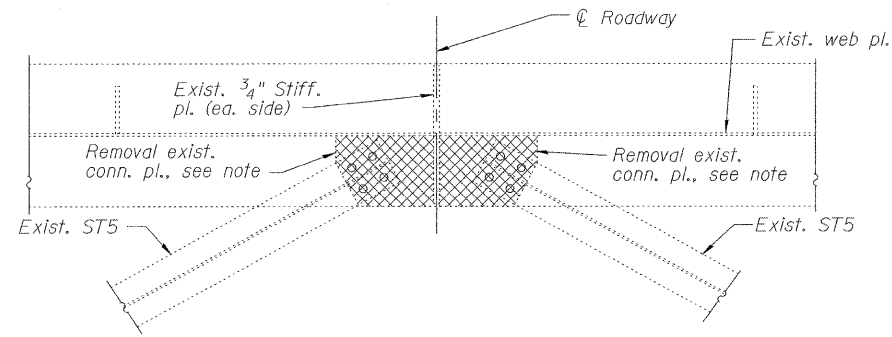
DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 18 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8   ILLINOIS   FED. AID PROJECT					

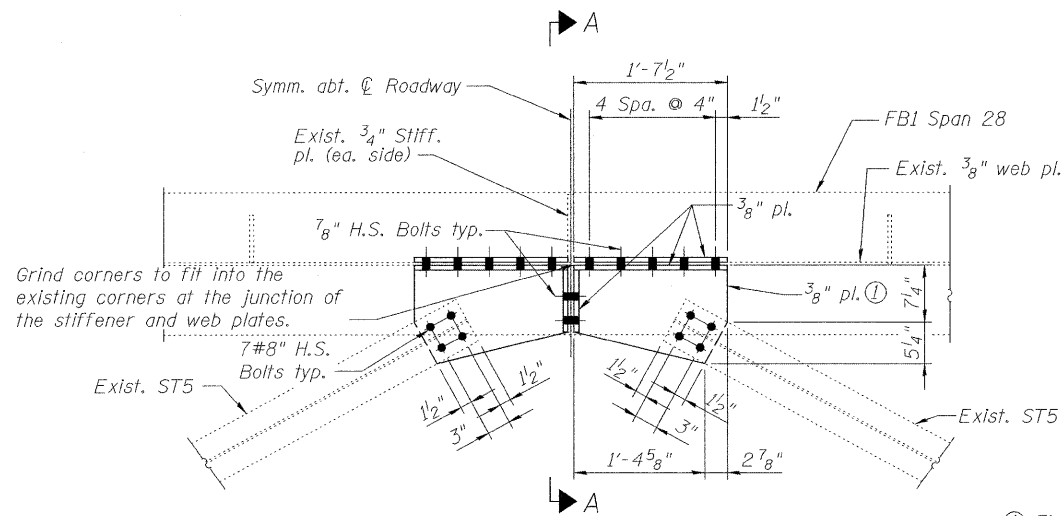
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



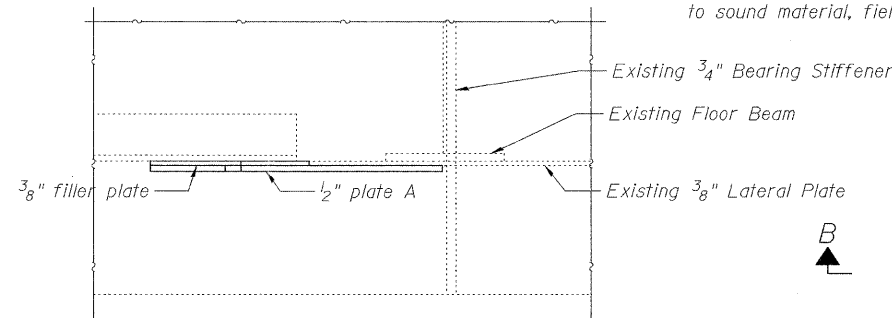
REMOVAL PLAN - EAST AND WESTBOUND STRUCTURE

Note: Field cut and remove existing connection plate, bolts and the damaged section of the existing ST5 as indicated. Remaining surfaces shall be ground smooth. See Special Provisions.



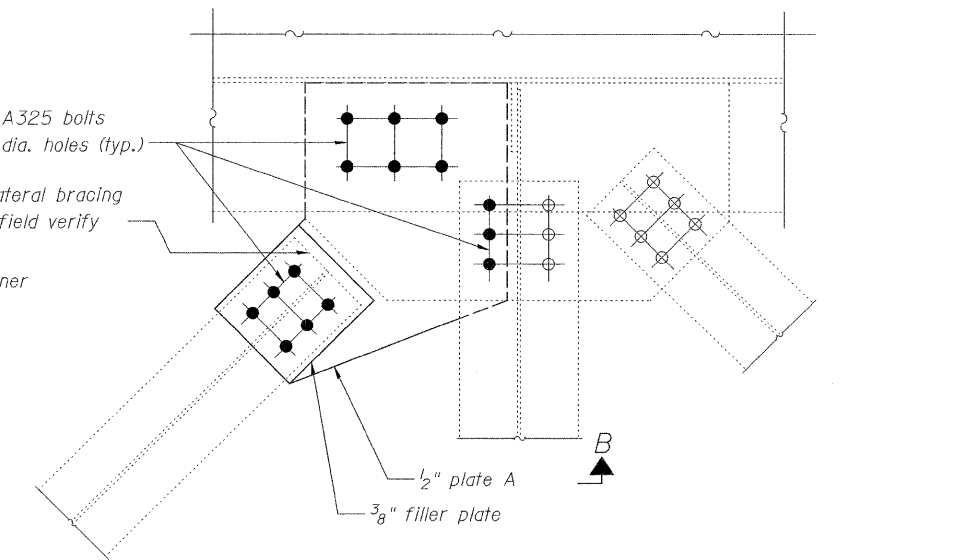
REPAIR PLAN - EAST AND WESTBOUND STRUCTURE  
FLOORBEAM AT PIER 28

① Field verify dimensions of plate based on location of field cut of existing ST5.



Note: bolts not shown for clarity

SECTION B-B



PLAN LATERAL BRACING REPAIR - SPAN 18 - FB 1 @ GIRDER 3

All dimensions and plate sizes need to be field verified

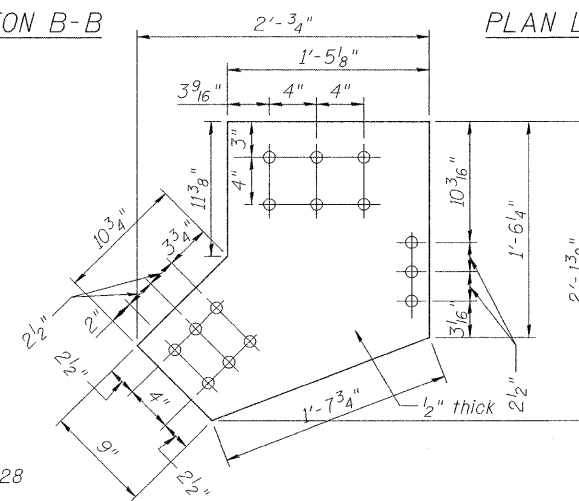
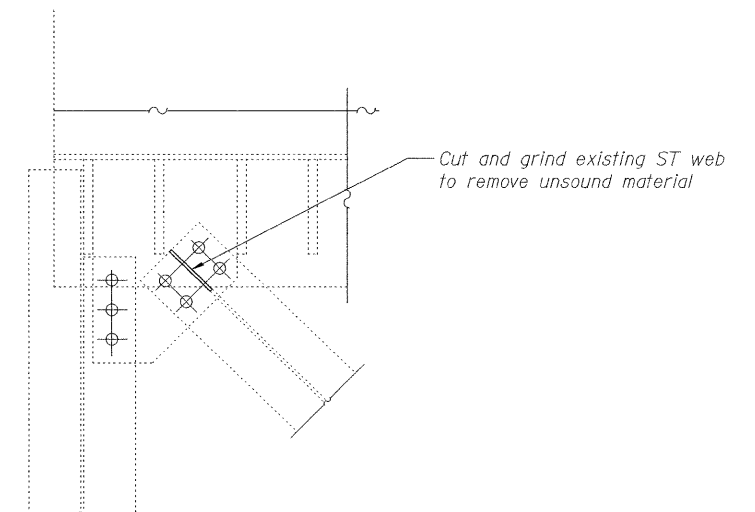
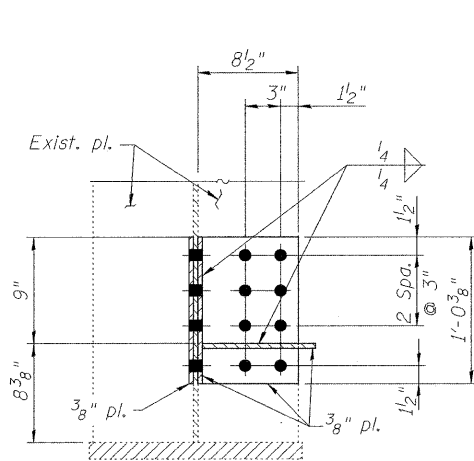


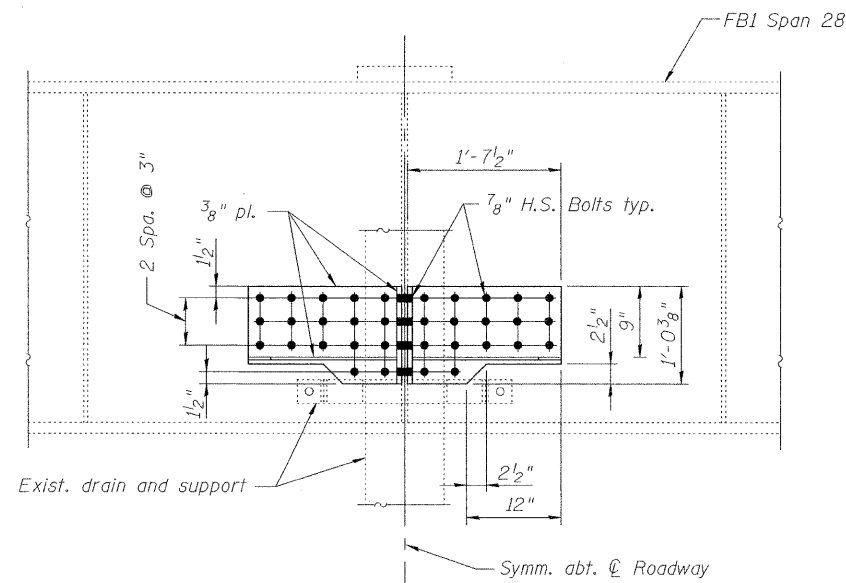
PLATE A



LATERAL BRACING REPAIR - SPAN 15 - FB 1 @ GIRDER 4



SECTION A-A



ELEVATION - EAST AND WESTBOUND STRUCTURE

Existing ST5 not shown for clarity.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pounds	350

STEEL REPAIR DETAILS - 4  
STRUCTURE NO. 060-0035

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
19	270	60B-1-8	MADISON	49	32
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

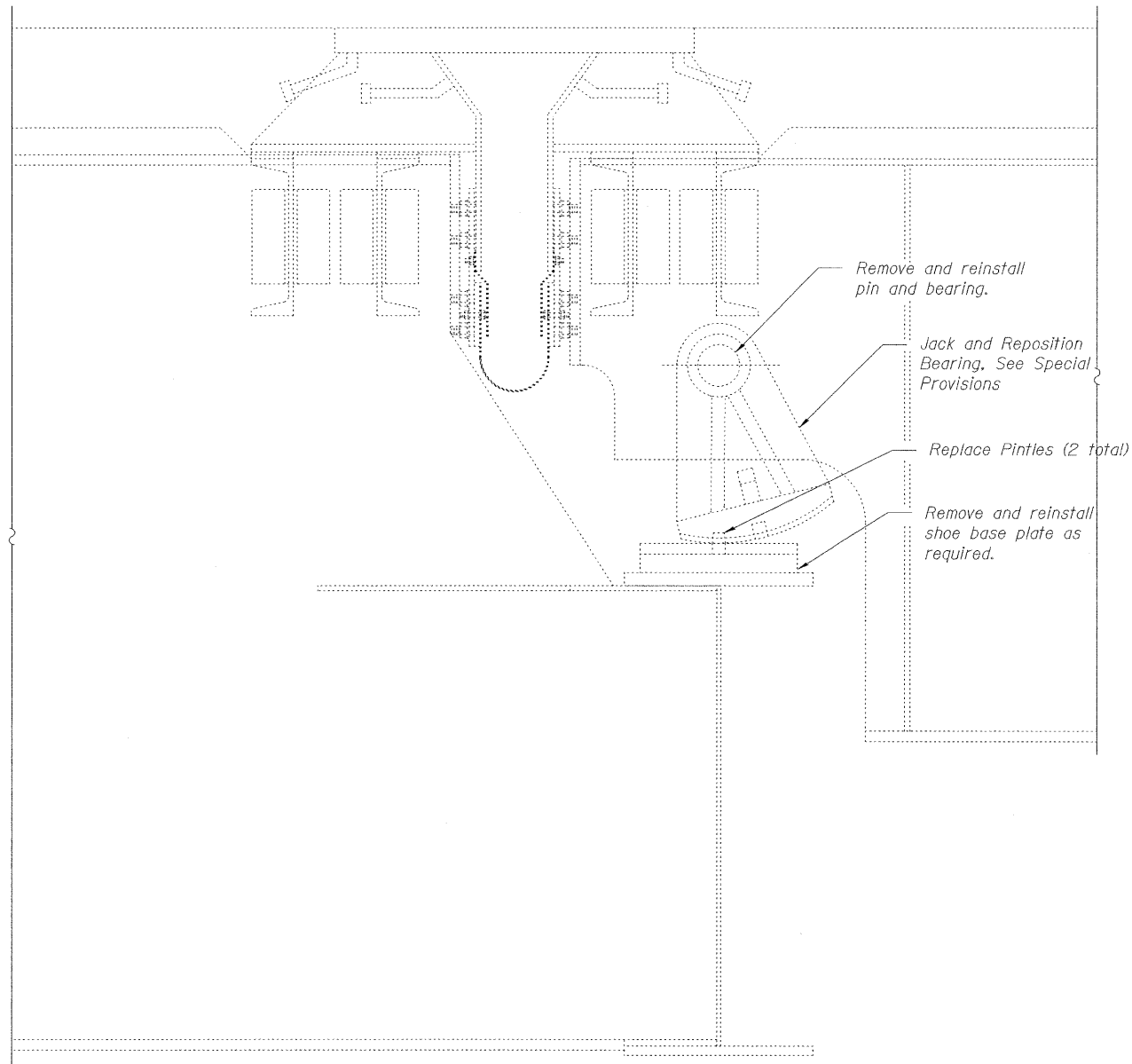
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CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



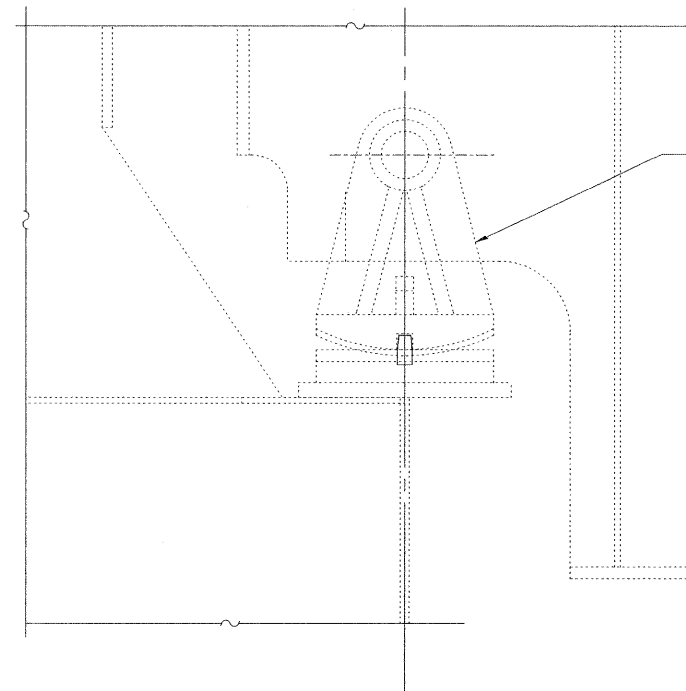
**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900



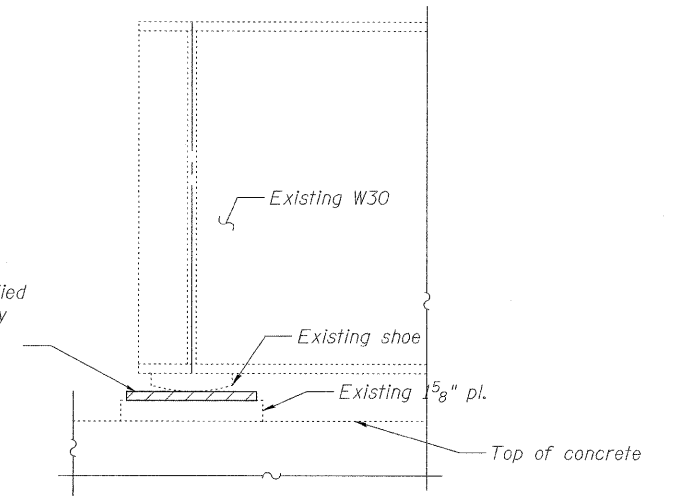
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



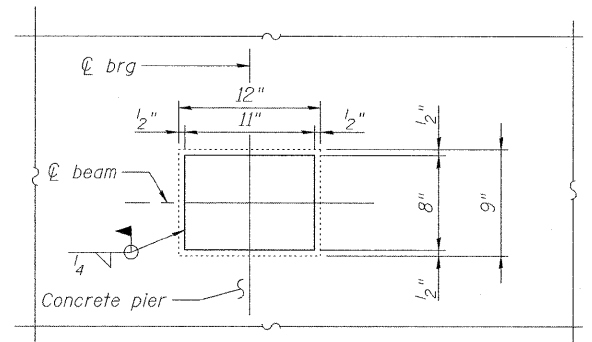
EXISTING BEARING POSITION  
GIRDER 7, NEAR PIER 28



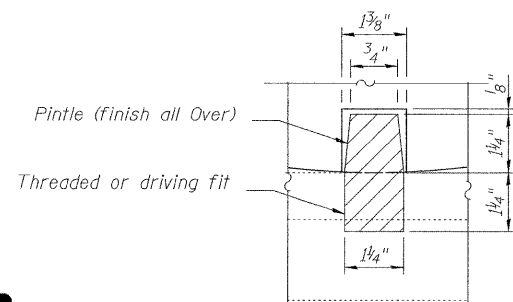
REPAIRED BEARING POSITION  
GIRDER 7, NEAR PIER 28



REPAIRED BEARING PLATE  
BEAM 9, PIER 43 E. BRG LINE



PLAN VIEW  
REPAIRED BEARING PLATE  
BEAM 9, PIER 43 E. BRG LINE



DETAIL OF PINTLE

PIER 28 BEAM REACTIONS

Beam No.	Reaction (Kips) (DL+(LL+I))
6	110
7	110
8	110
9	110
10	110

BILL OF MATERIAL

Item	Unit	Total
Jack and Reposition Bearings	Each	1
Furnishing and Erecting Structural Steel	Pound	10

BEARING MODIFICATION  
STRUCTURE NO. 060-0035

SHEET NO.	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
20	270	60B-I-8	MADISON	49	33
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8   ILLINOIS   FED. AID PROJECT					

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

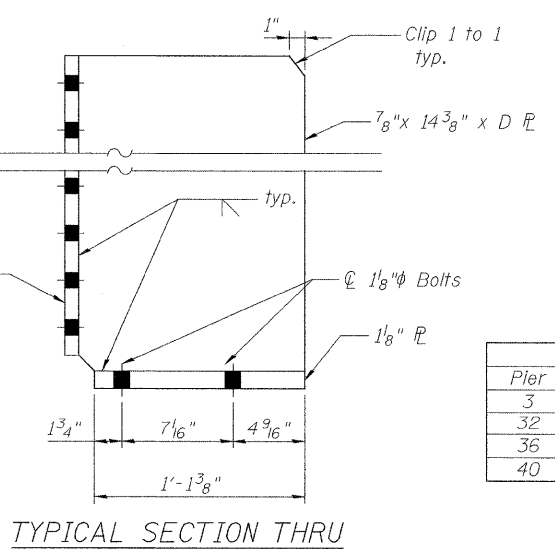
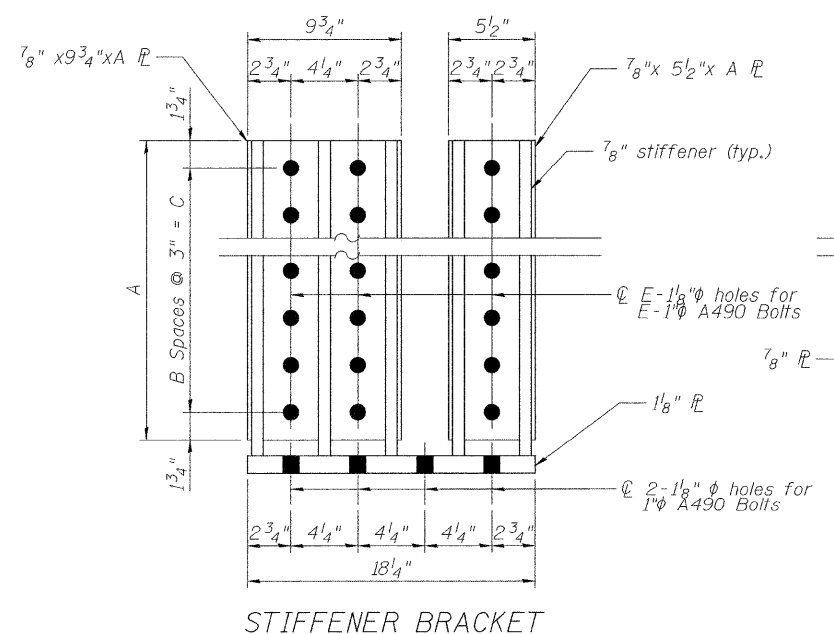
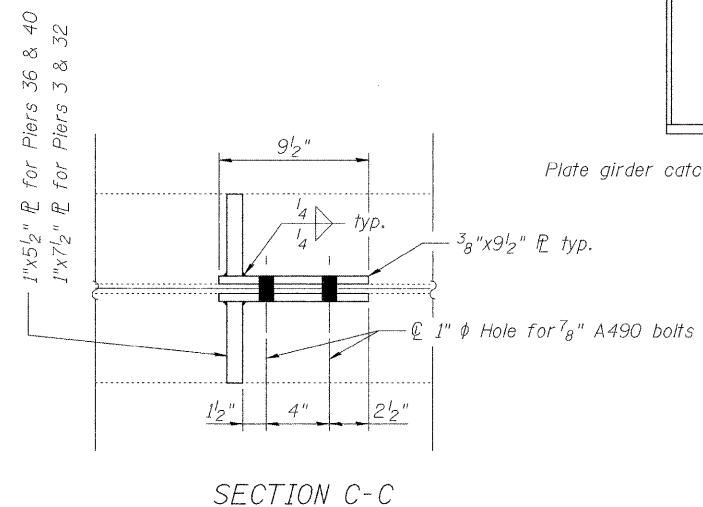
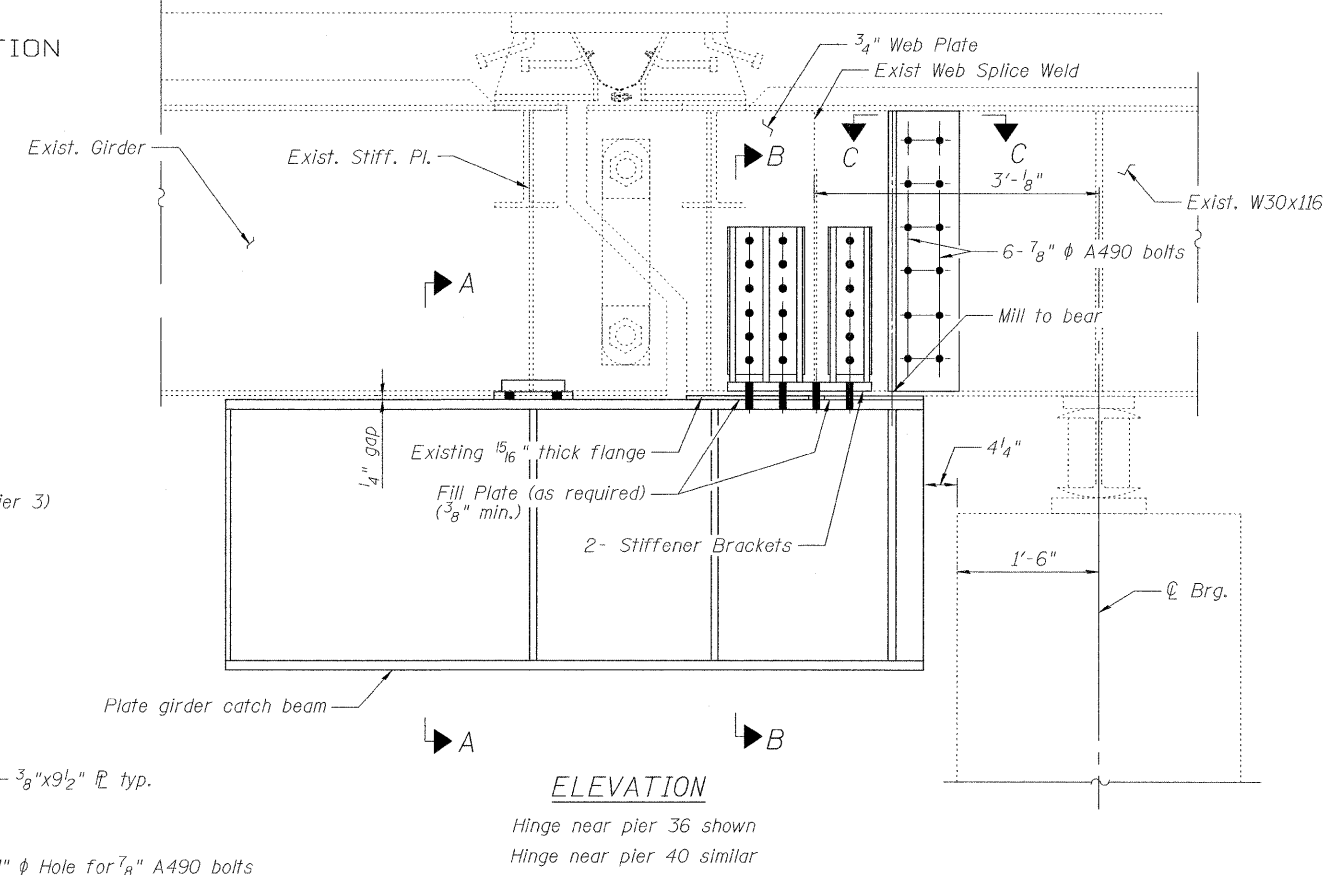
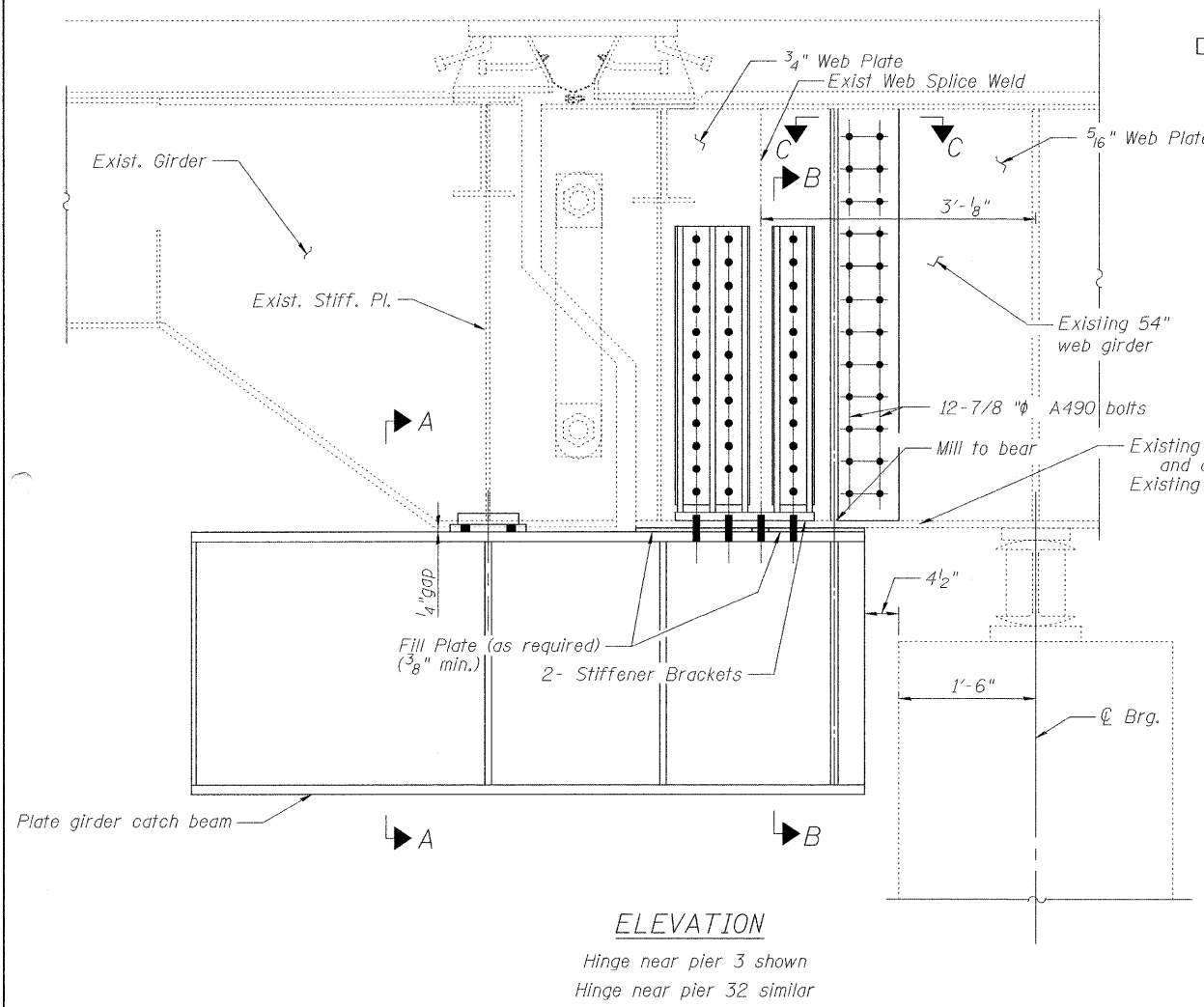


**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

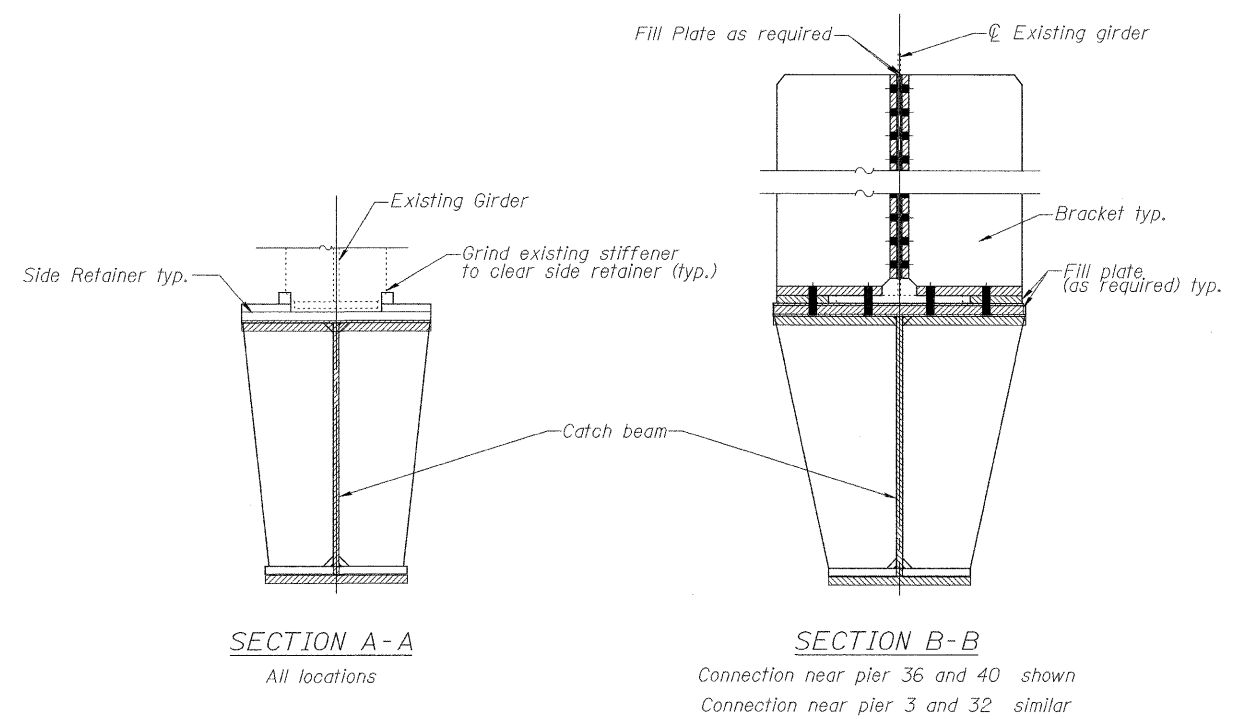
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

General Notes

Designed for 2007 AASHTO LRFD  
Strength I Limit State  
Design truck = HL-93  
Catch beams and corresponding  
connections are not designed for fatigue.



BRACKET DIMENSIONS					
Pier	A	B	C	D	E
3	36 1/2"	11	33"	37 1/2"	12
32	36 1/2"	11	33"	37 1/2"	12
36	18 1/2"	5	15"	19 1/2"	6
40	18 1/2"	5	15"	19 1/2"	6



DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



- Note:
1. Remove existing wind transfer device as needed.
  2. All bolts, nuts and washer shall be ASTM A490.
  3. For catch beam details see sheet 22 of 36.
  4. For Side Retainer details see sheet 22 of 36.

BILL OF MATERIAL

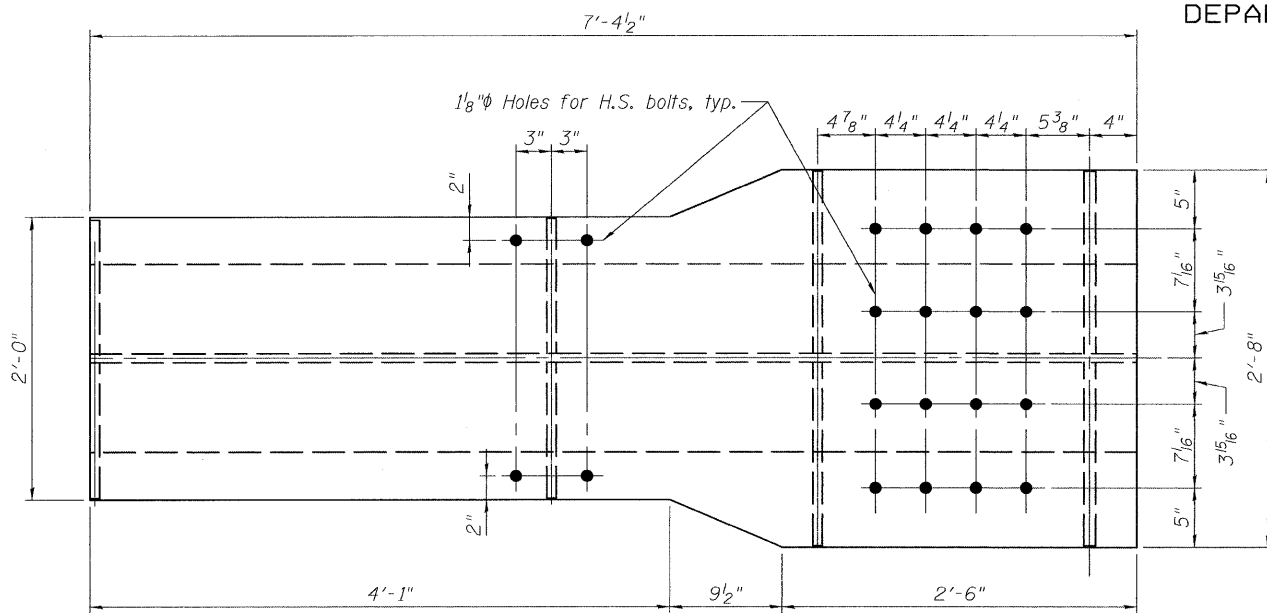
Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	194,200

CATCH BEAM DETAILS - 1  
STRUCTURE NO. 060-0035

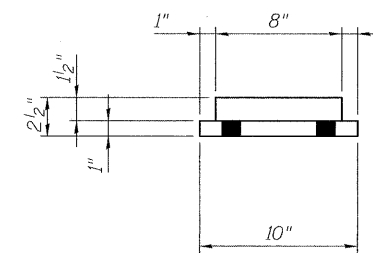
SHEET NO. 21 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	34
CONTRACT NO. 76A92					
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

L:\S4178-Chan of Rocks\04 Design\CADD\Sheet Files\060035-76A92-021-Catch.bml.dgn

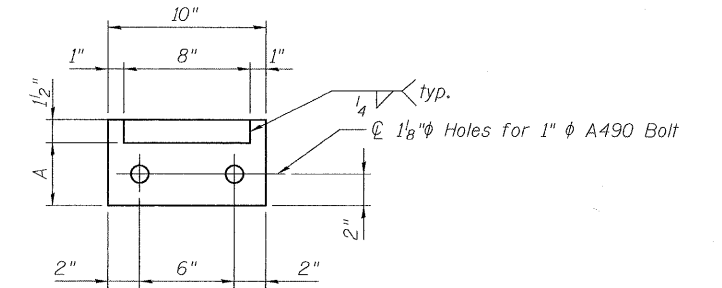
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN



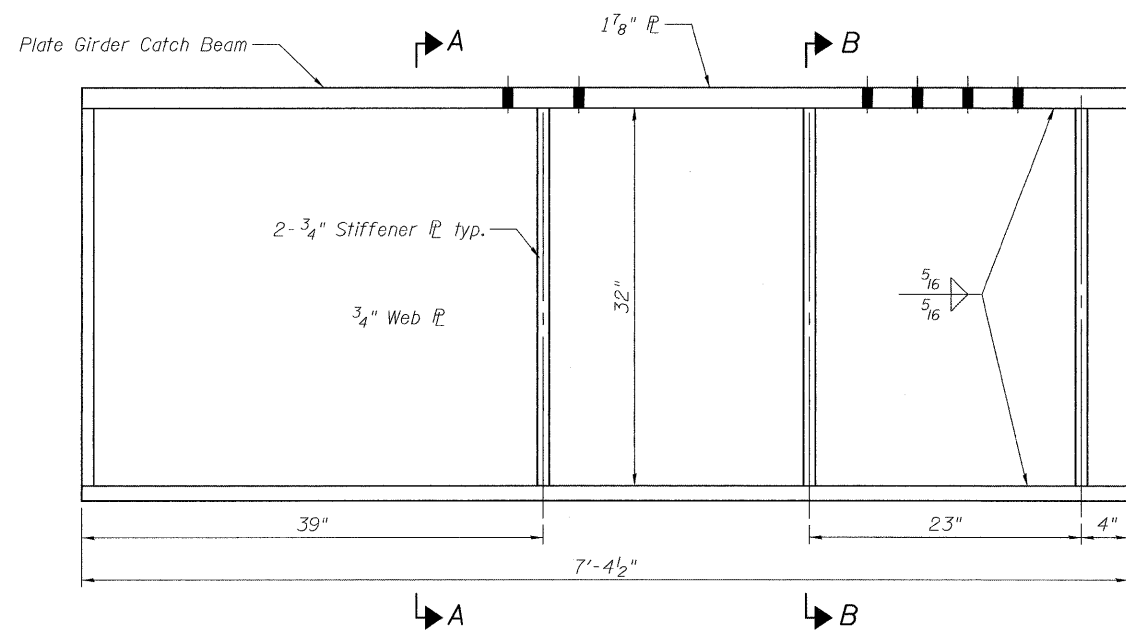
ELEVATION



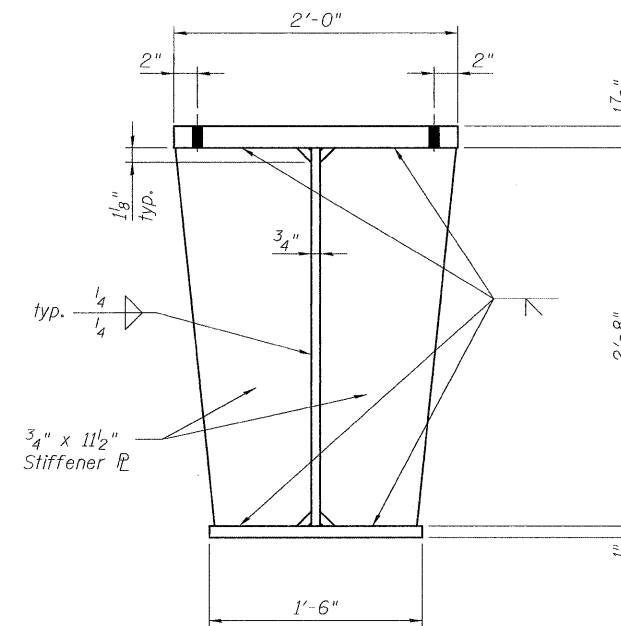
PLAN VIEW

SIDE RETAINER DIMENSIONS	
Pier	A
3	4 3/4"
32	4"
36	4"
40	4 3/4"

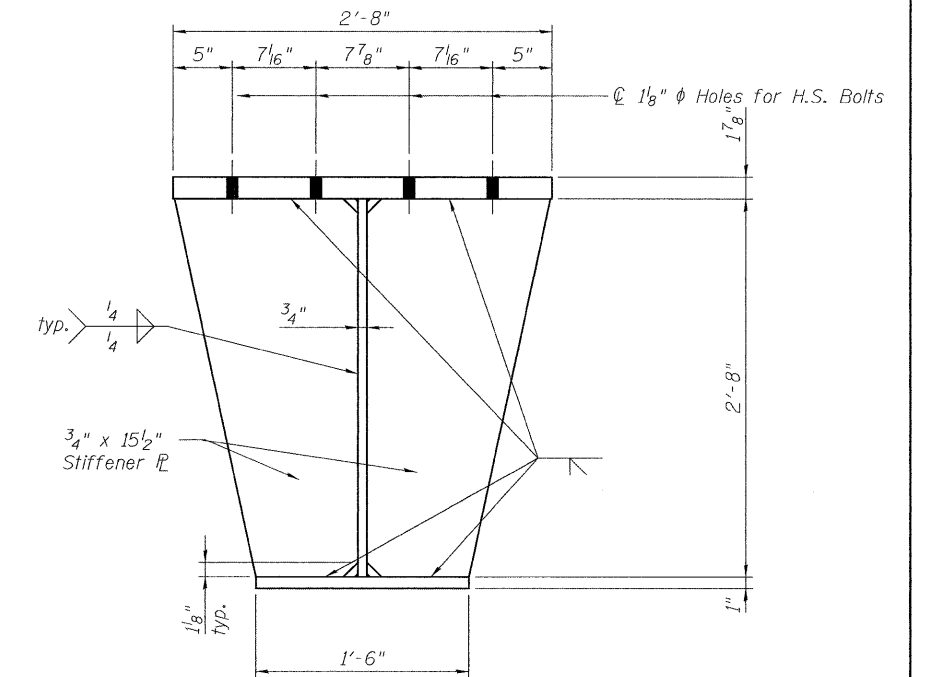
SIDE RETAINER  
(2 required per catch beam)



ELEVATION



SECTION A-A



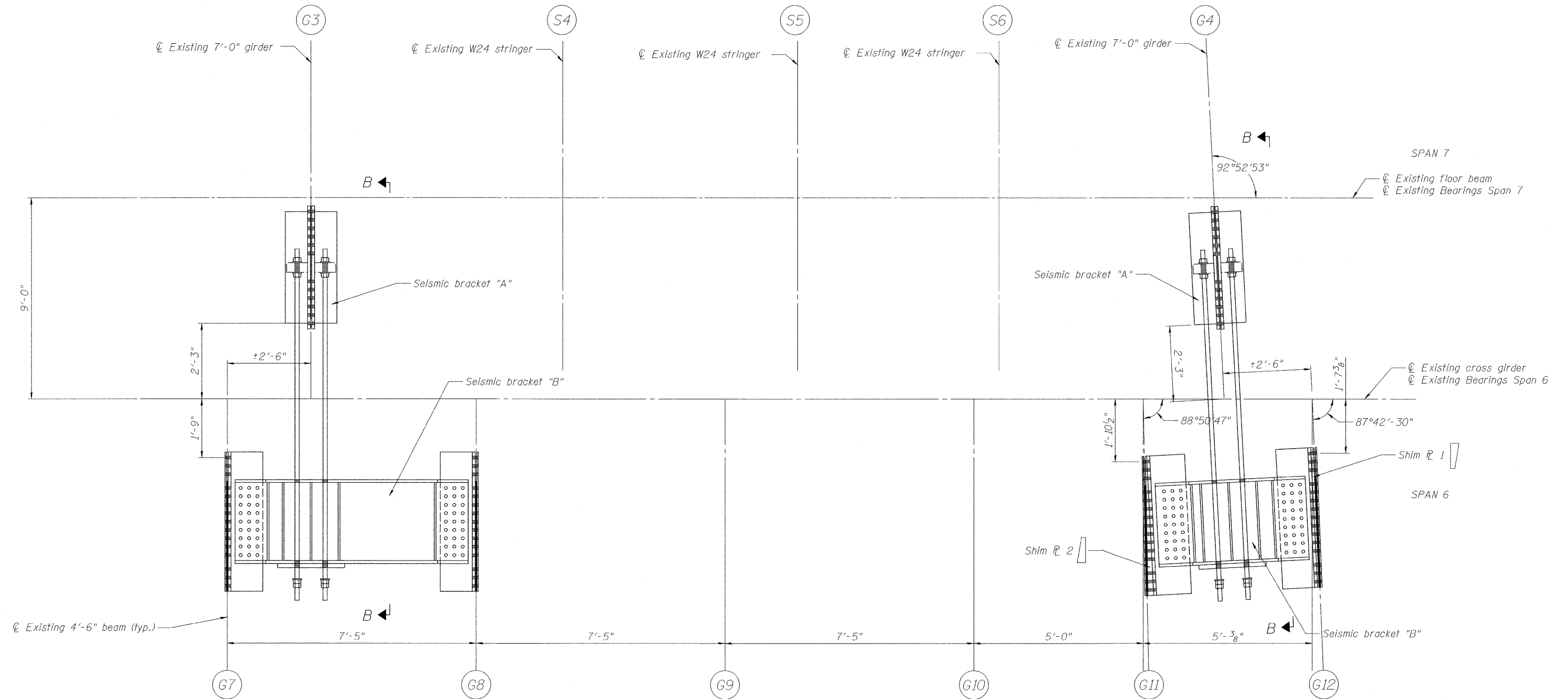
SECTION B-B

CATCH BEAM DETAILS-2  
STRUCTURE NO. 060-0035

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB



SHEET NO. 22 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 35
	CONTRACT NO. 76A92				
	FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT				



**PLAN VIEW**

Eastbound structure shown  
Westbound structure similar

Note: Expansion joint and existing steel not shown for clarity.

**SEISMIC RESTRAINER - NEAR PIER 7**

DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM



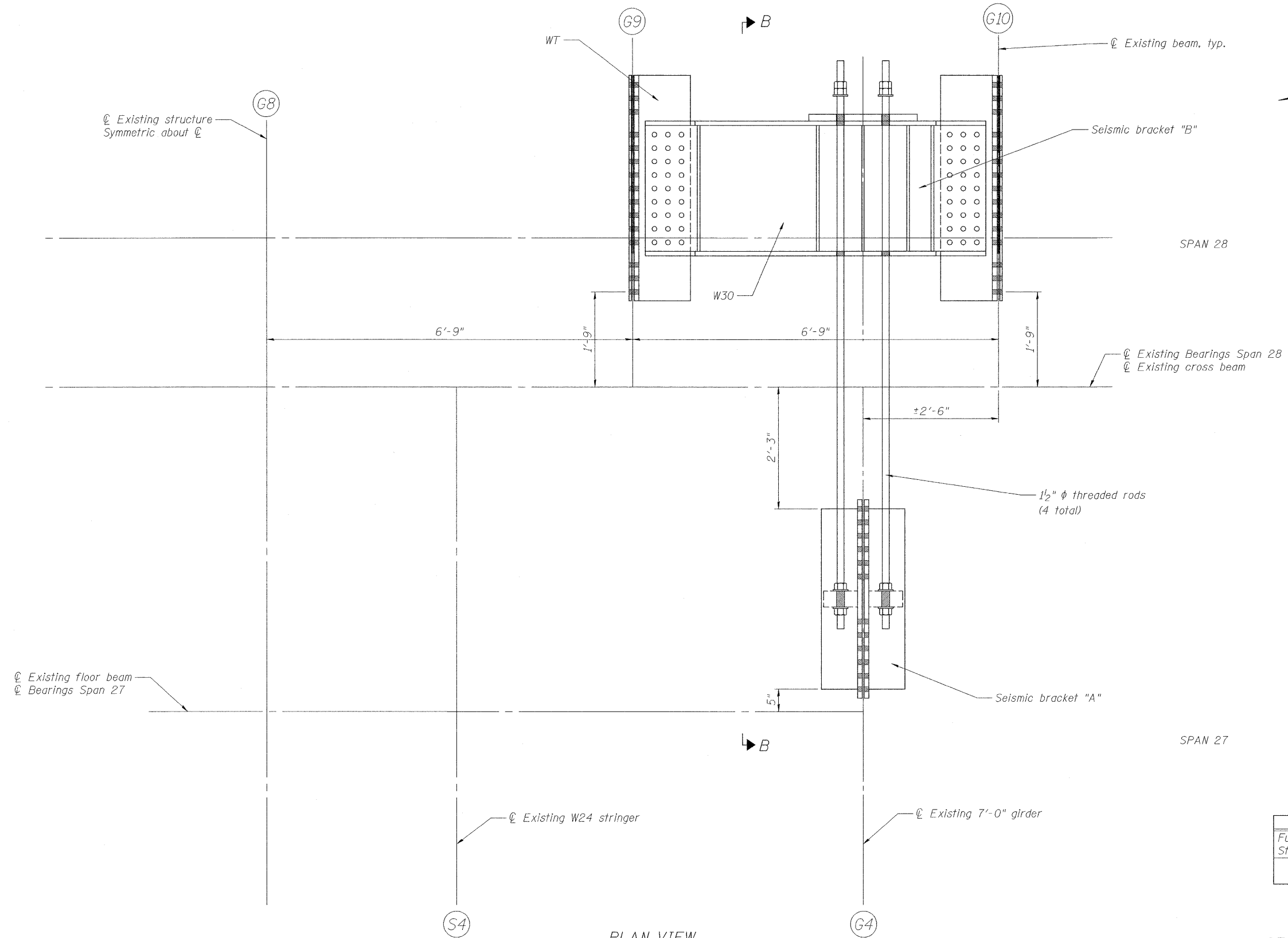
Note:  
1. For additional details see sheets 24 - 28.

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	20,980

SHEET NO. 23 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	36
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW**

Pier 28 Eastbound shown  
Pier 28 Westbound similar

Note: Expansion joint and existing steel not shown for clarity.  
For additional details see sheets 23 - 28.

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	20,740

**SEISMIC RESTRAINER - NEAR PIER 28**

DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM

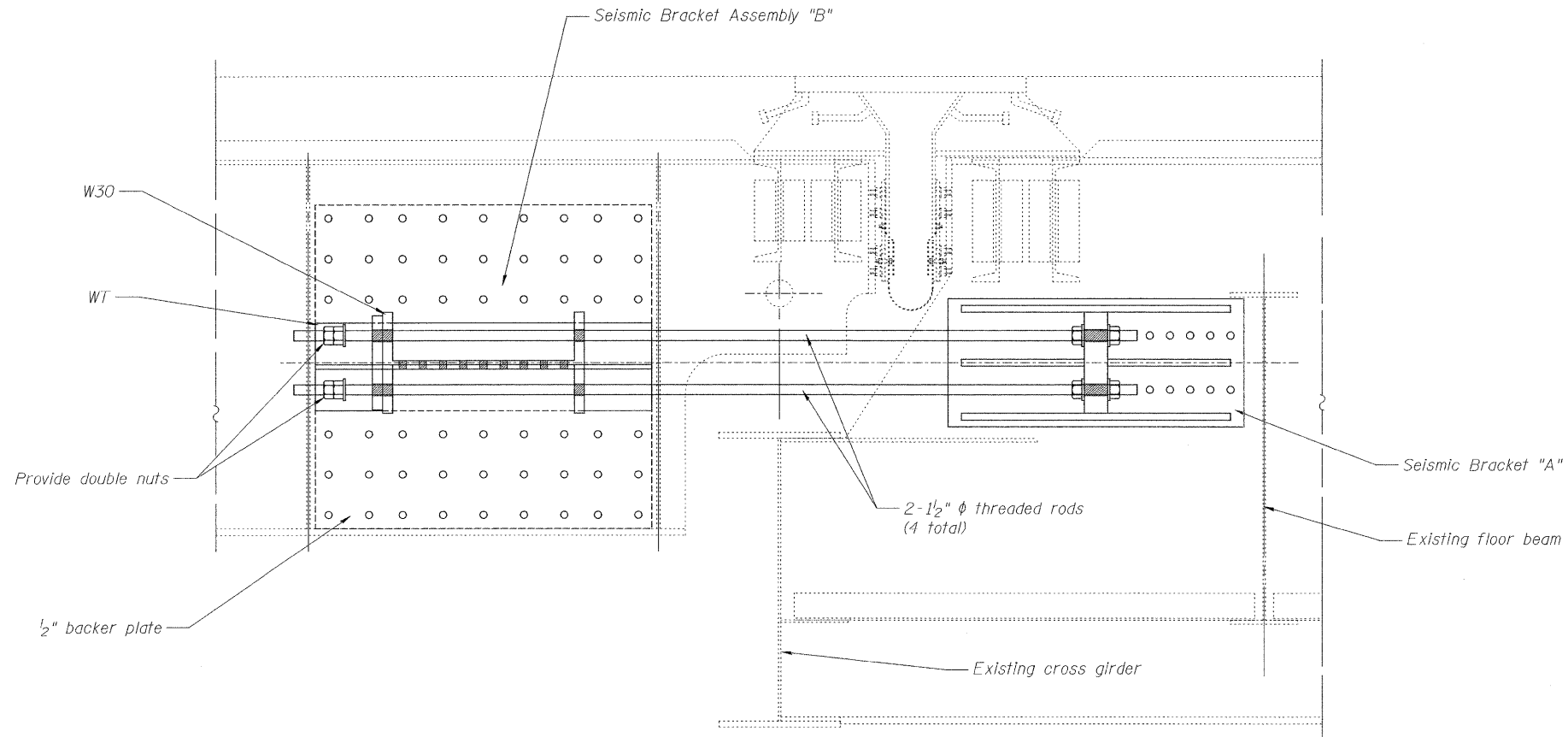


**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 24 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 37
	CONTRACT NO. 76A92			FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT	

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



Note: Existing bearing not shown for clarity

SECTION B-B

NOTES:

All of the seismic steel brackets, threaded rods, bolts, washers, and nuts utilized in the seismic retrofit shall be hot dipped galvanized.

Four 1.50" diameter high strength ASTM A320 L7 hot dipped galvanized threaded rods shall be installed between the main girder and the two adjacent suspended girders. Each rod shall be installed with hot dipped galvanized washers and nuts. Each threaded rod shall be one continuous piece with couplers not allowed. The nuts utilized on the threaded rods shall be ASTM A194 Grade 4 heavy hex nuts. The washers utilized on the threaded rods shall be ASTM F436 circular Type 1 hardened steel washers. A seismic restraint system shall be installed at each main girder.

ASTM A325X bolts (threads excluded) with diameters of 1 inch shall be utilized to attach the seismic brackets to the existing main girders and the adjacent suspended girders, respectively. The nuts utilized with the A325 bolts shall be ASTM A194 Grade 4 heavy hex nuts. The washers utilized with the bolts shall be ASTM F436 circular Type 1 hardened steel washers.

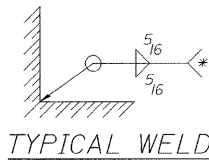
The seismic brackets shall be hot dipped galvanized according to ASTM A123, with a minimum coating grade of 50.

The high strength threaded rods, bolts, washers, and nuts shall be hot dipped galvanized according to ASTM A153 and ASTM F2329.

Brackets and connections are 110% stronger than the restrainer rod.

Approximate length of 1 1/2" diameter threaded rod is ±11'-0".

Contractor to field verify dimensions prior to fabrication.



\* A partial joint penetration weld is acceptable in lieu of the above weld criteria, in areas where there is limited access to weld.

SEISMIC RESTRAINER NEAR PIERS 7 & 28 - 1

Work this sheet with sheets 24-28 of 36.

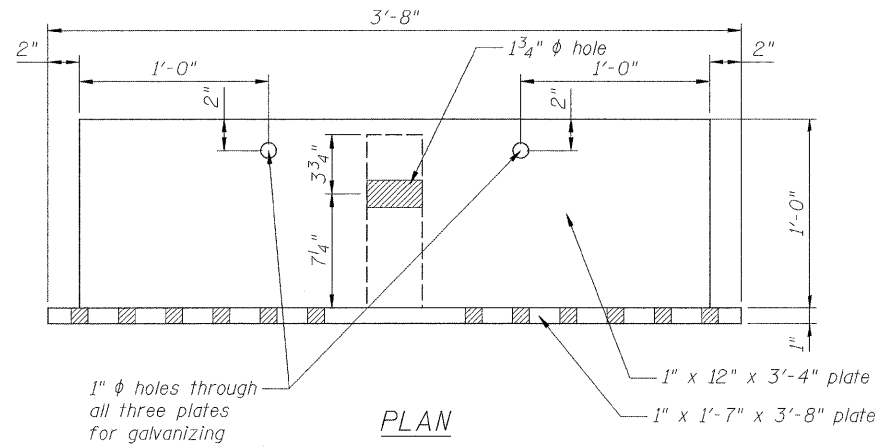
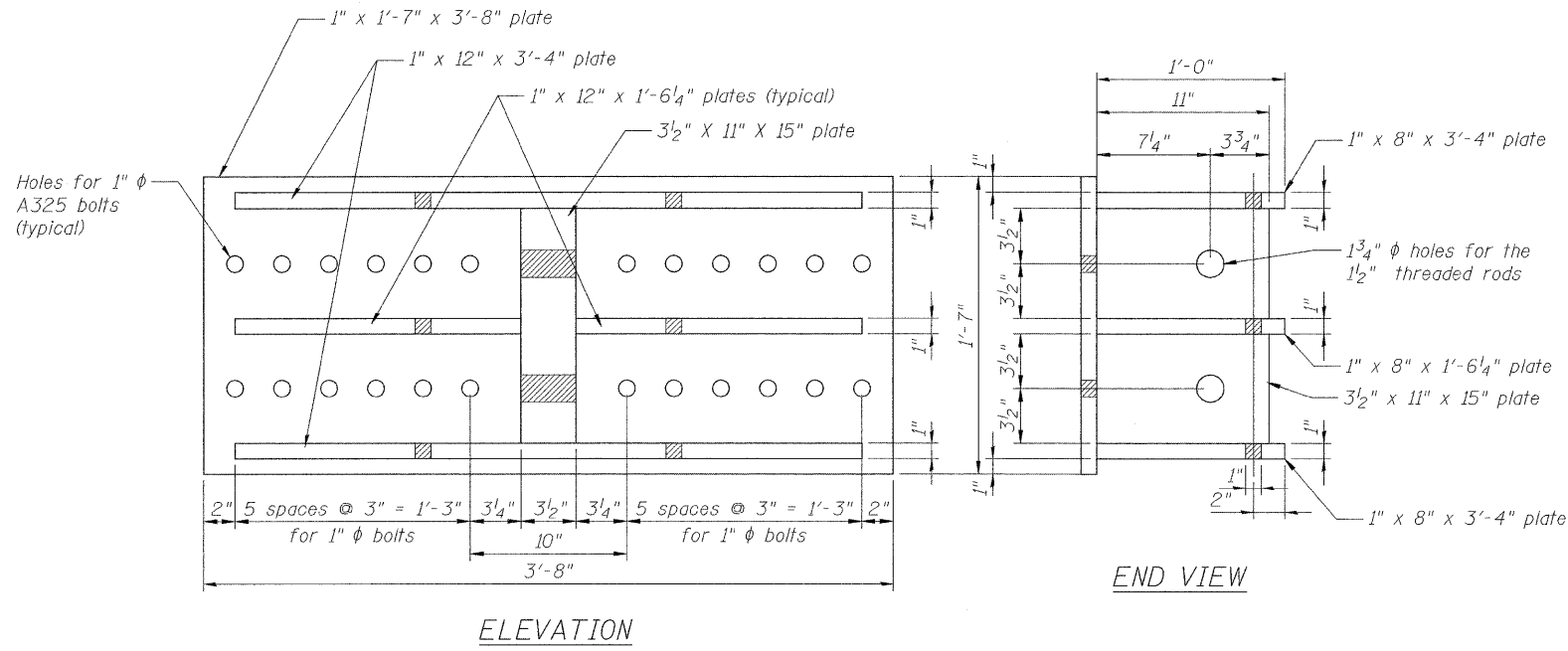
DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM



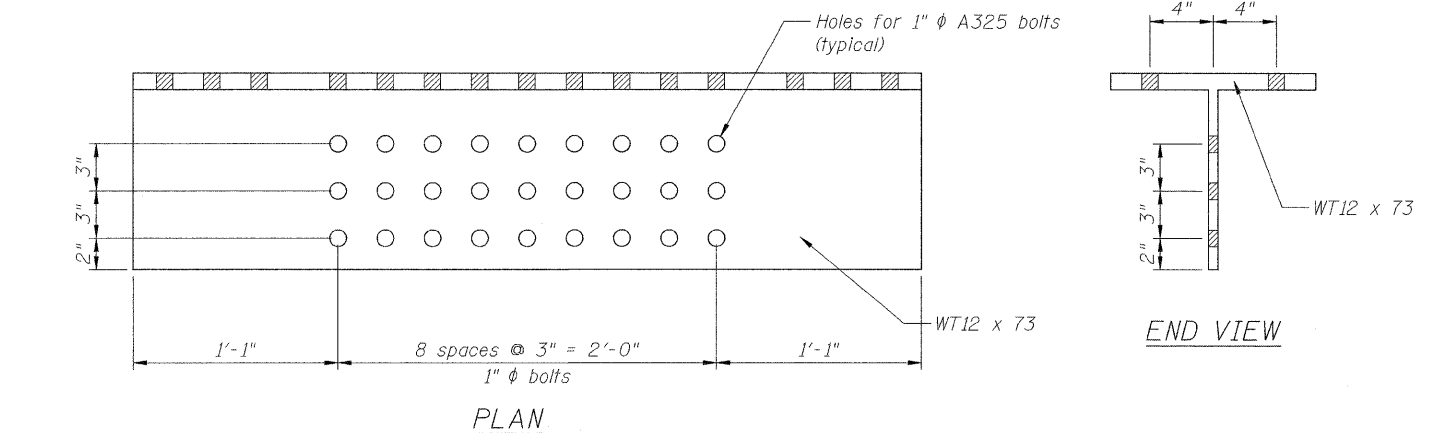
SHEET NO. 25	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	38
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BRACKET ASSEMBLY "A"**  
**DETAILS**



**WT DETAILS**

**BRACKET ASSEMBLY "B"**  
**DETAILS**

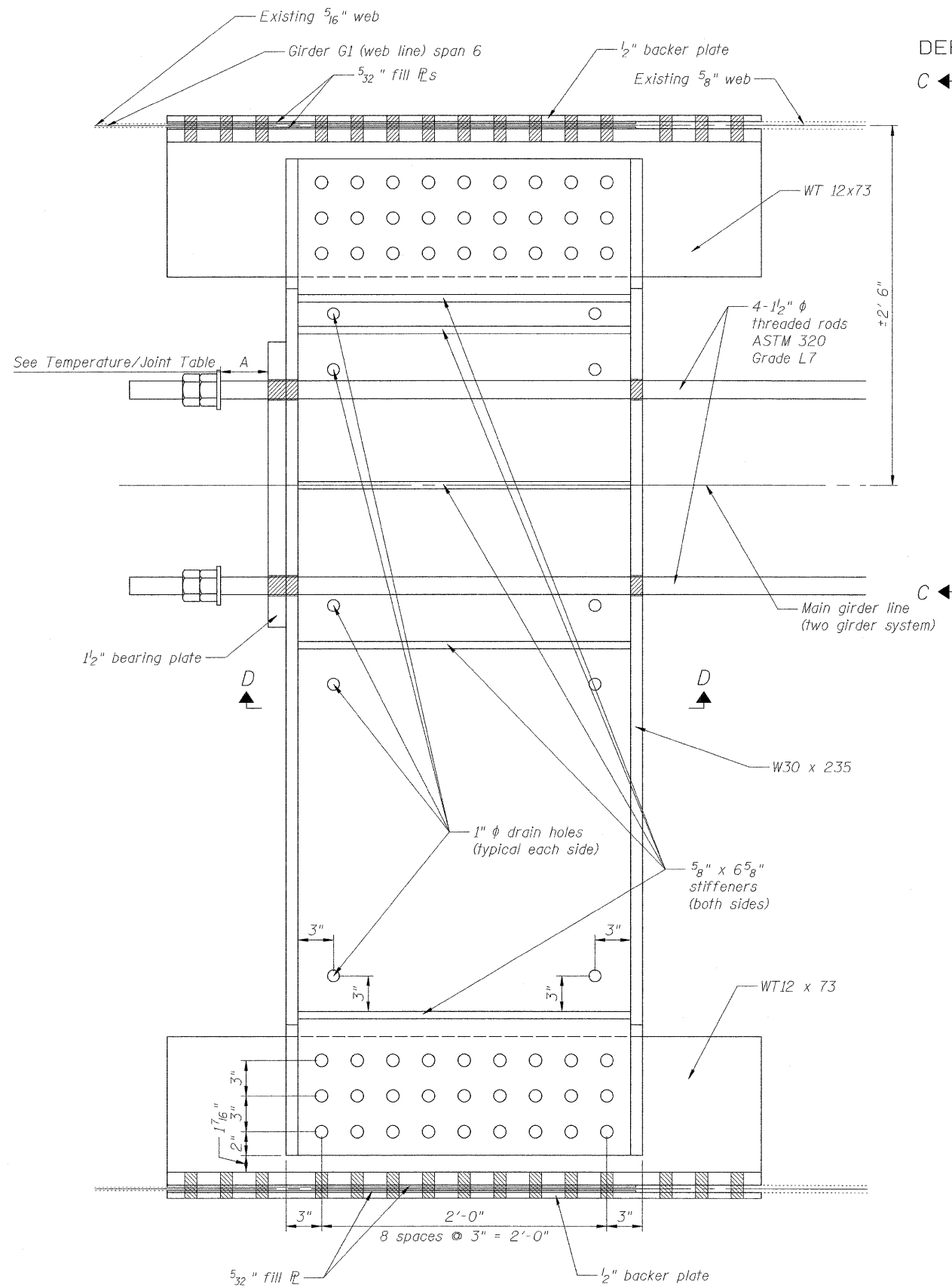
SEISMIC RESTRAINER NEAR PIERS 7 & 28 - 2

DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM

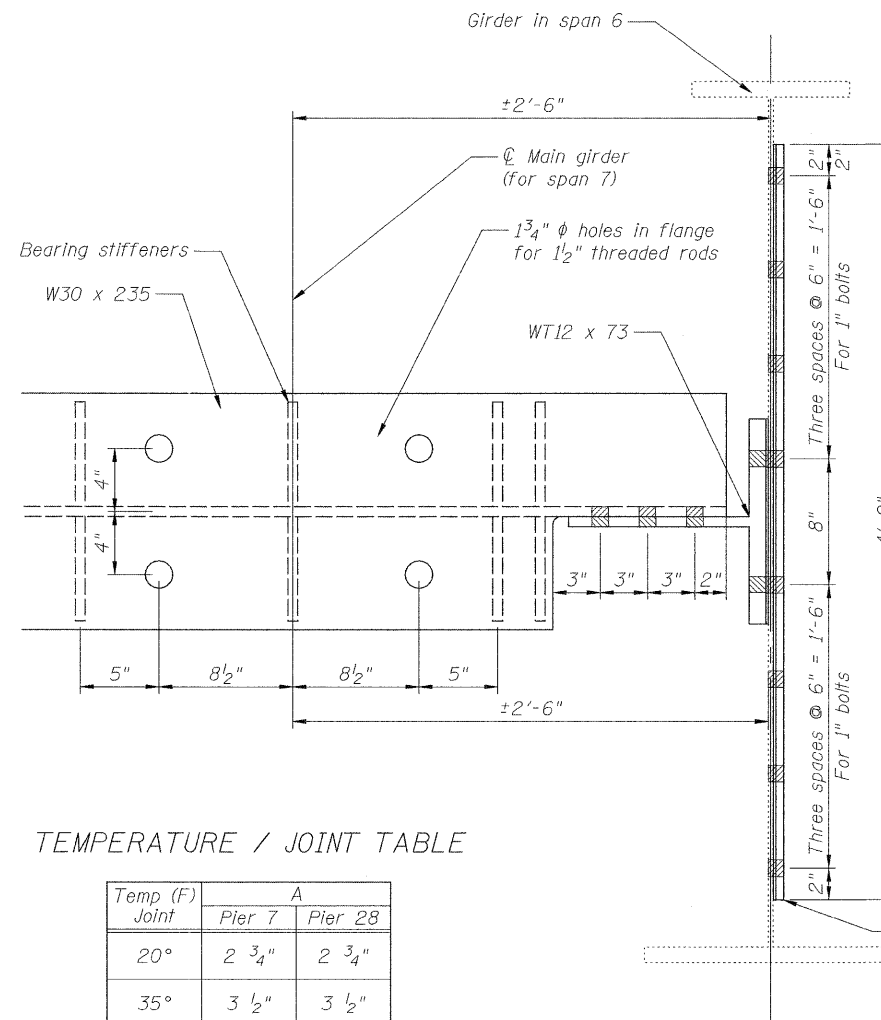


SHEET NO. 26 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 39
	CONTRACT NO. 76A92			FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT	

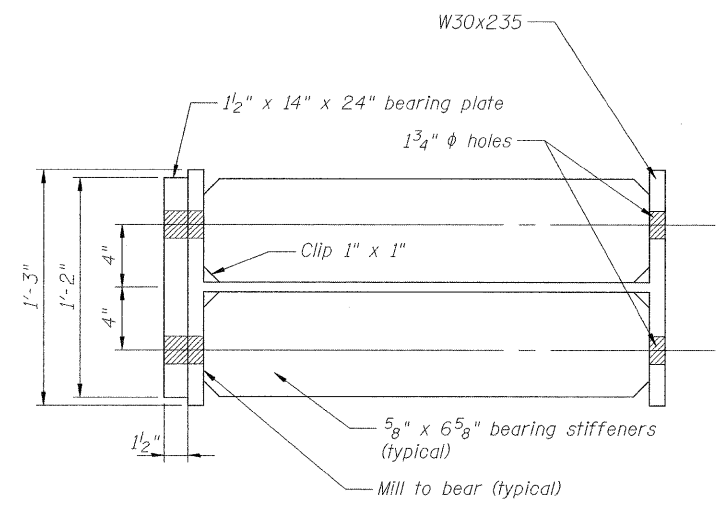
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



BRACKET ASSEMBLY "B"



SECTION C-C



SECTION D-D

TEMPERATURE / JOINT TABLE

Temp (F) Joint	A	
	Pier 7	Pier 28
20°	2 3/4"	2 3/4"
35°	3 1/2"	3 1/2"
50°	4 1/2"	4 1/2"
65°	4 3/4"	4 3/4"
80°	5 1/2"	5 1/2"
95°	6 1/8"	6 1/8"
110°	6 3/4"	6 3/4"

SEISMIC RESTRAINER NEAR PIERS 7 & 28 - 3

RESTRAINER AT PIER 7 SHOWN;  
RESTRAINER AT PIER 28 SIMILAR

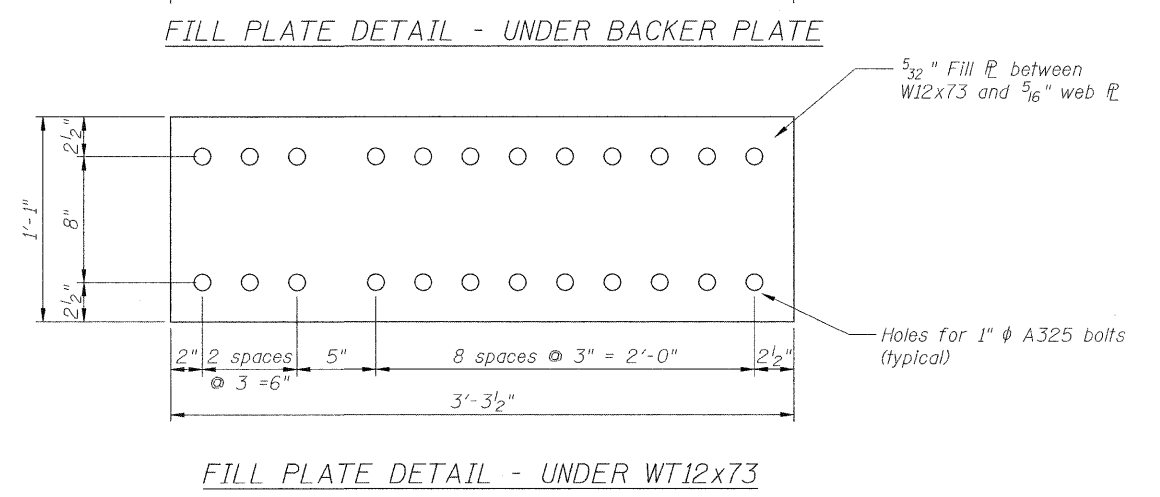
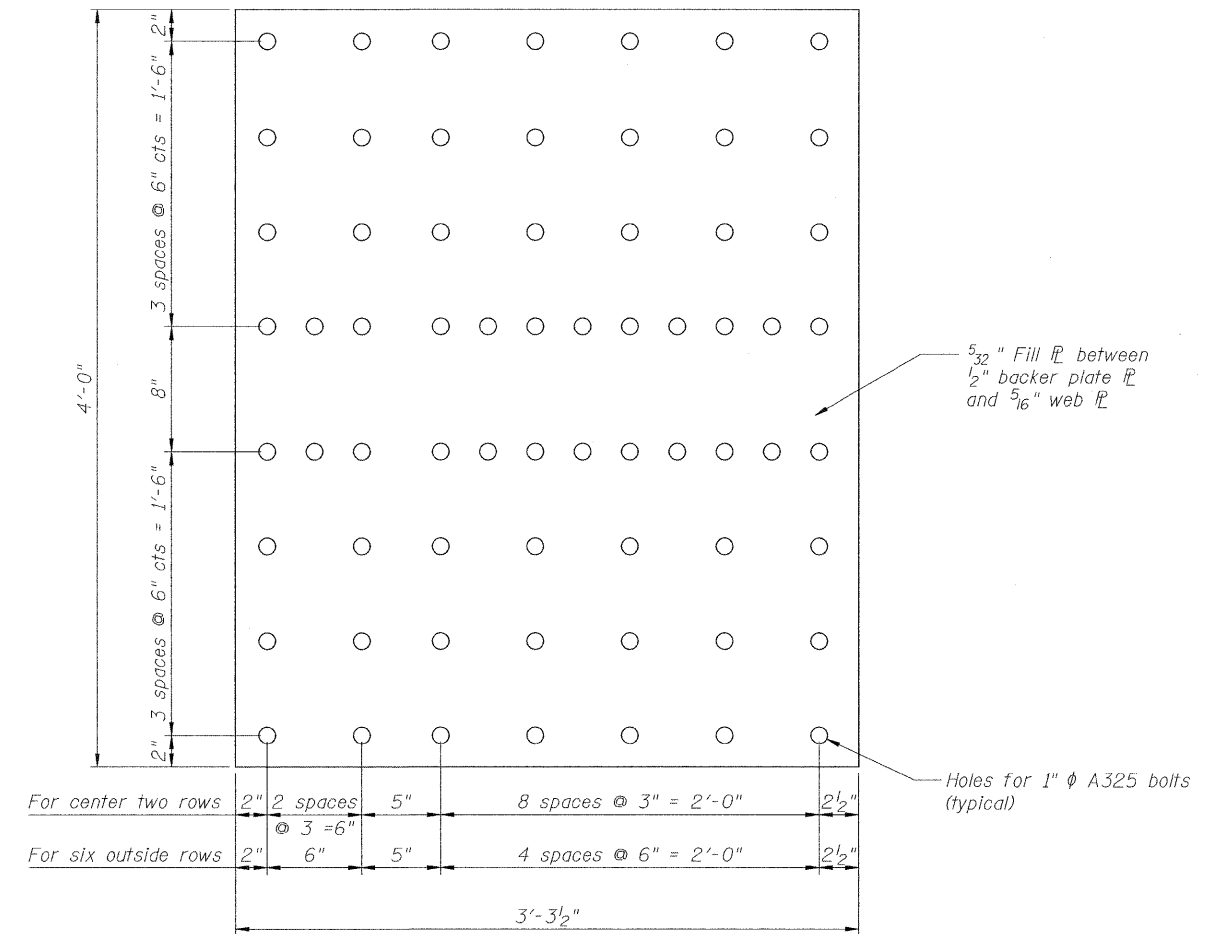
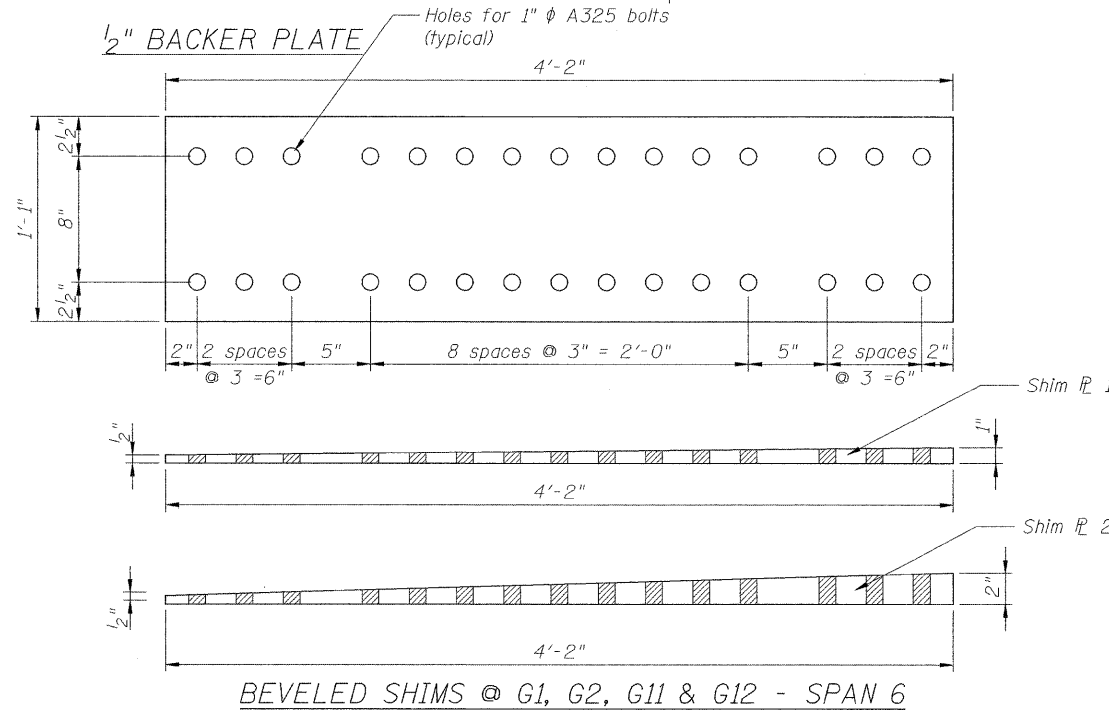
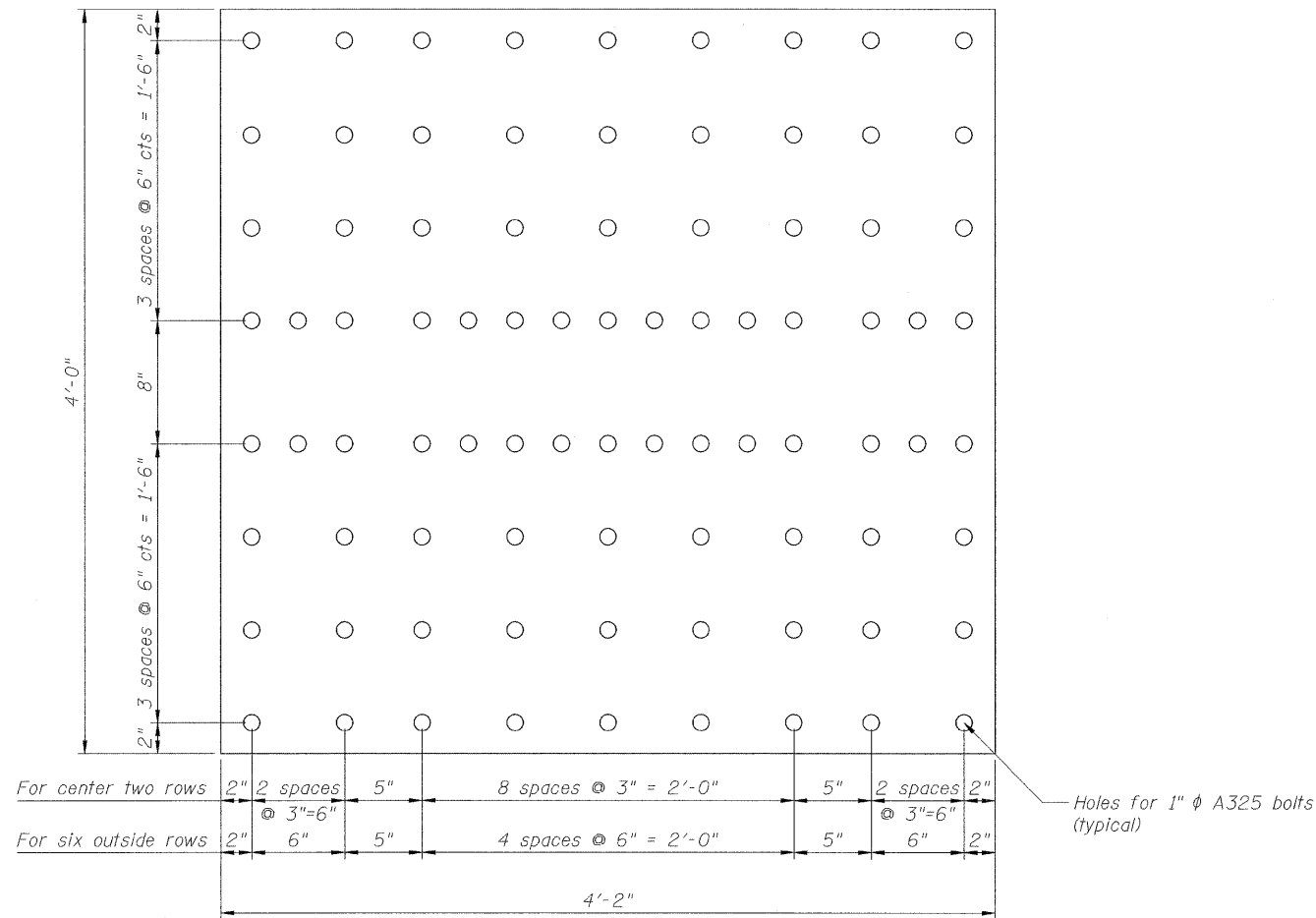
DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM

SHEET NO. 27 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	40
CONTRACT NO. 76A92					
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SEISMIC RESTRAINER NEAR PIERS 7 & 28 - 4

BRACKET ASSEMBLY "B" DETAILS

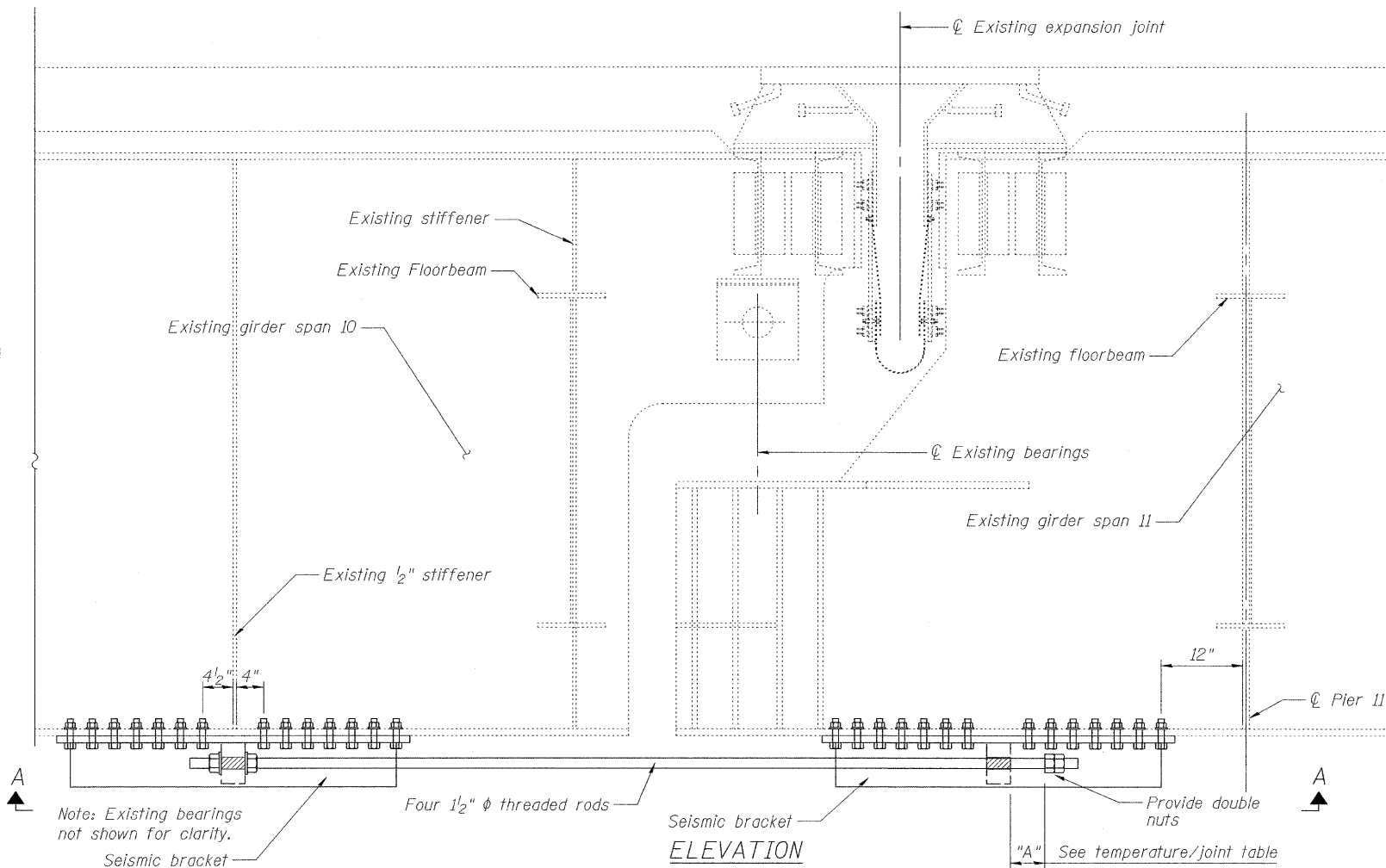
DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM

**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 28 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	41
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

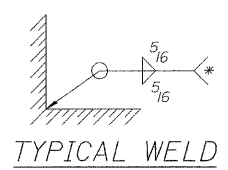
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

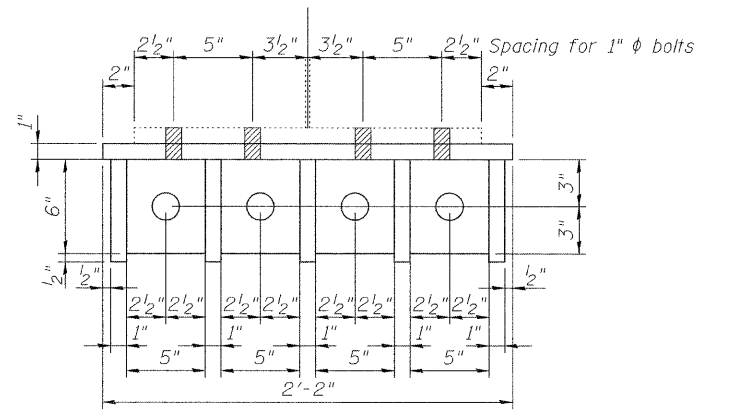
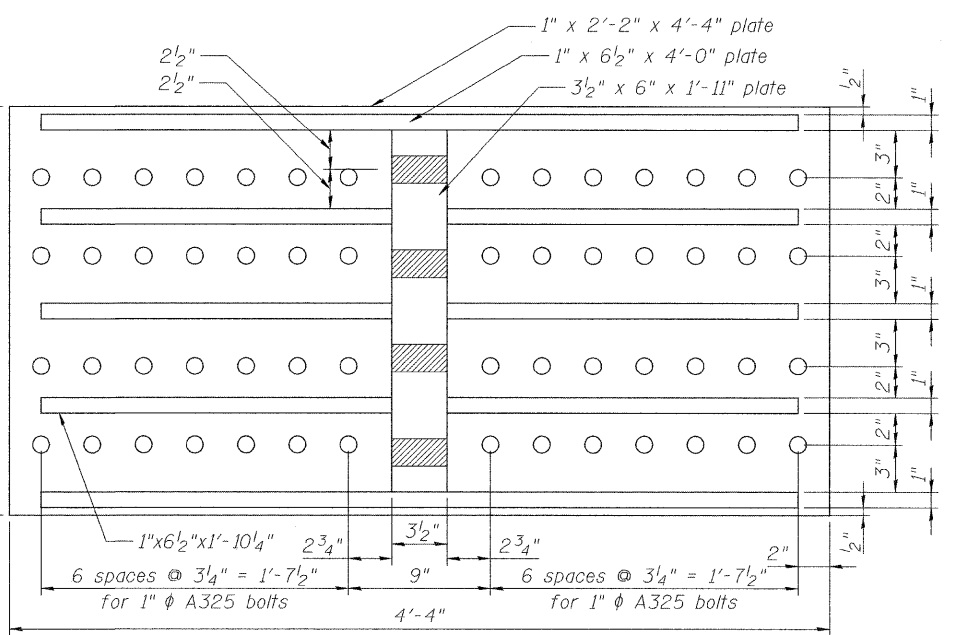
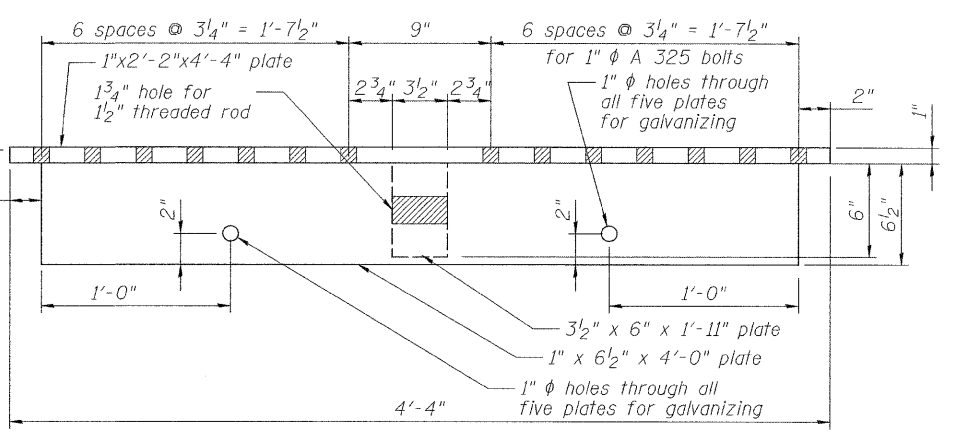


TEMPERATURE / JOINT TABLE

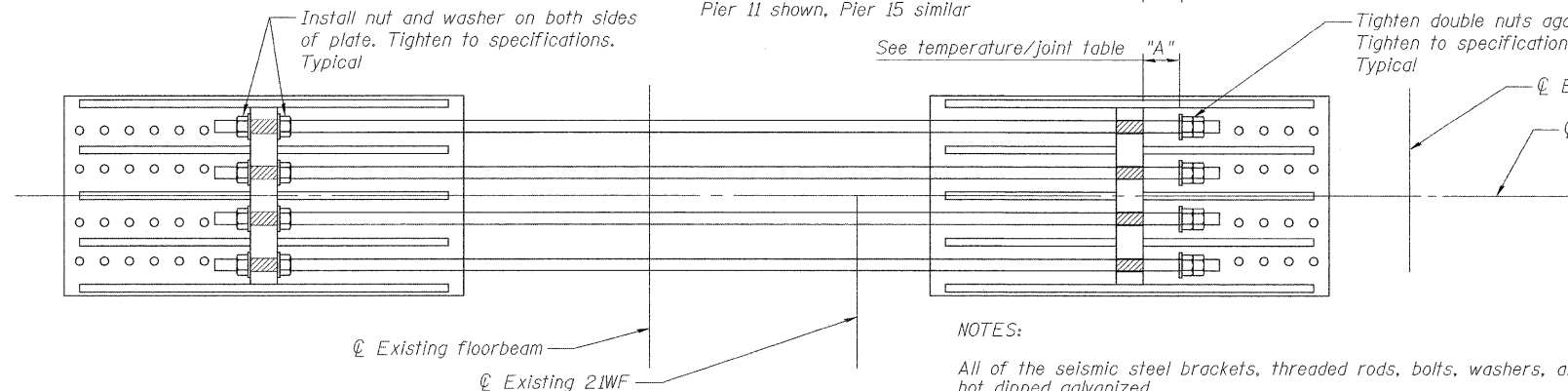
Temp (F) Joint	A	
	Pier 11	Pier 15
20°	3 1/8"	3 1/8"
35°	4"	4"
50°	4 3/4"	4 3/4"
65°	5 1/2"	5 1/2"
80°	6 3/8"	6 3/8"
95°	7 1/8"	7 1/8"
110°	7 7/8"	7 7/8"



\* A partial joint penetration weld is acceptable in lieu of the above weld criteria, in areas where there is limited access to weld.



SEISMIC BRACKET DETAILS



**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	18,680

SECTION A-A  
Existing steel not shown for clarity

**NOTES:**

All of the seismic steel brackets, threaded rods, bolts, washers, and nuts utilized in the seismic retrofit shall be hot dipped galvanized.

Four 1.50" diameter high strength ASTM A320 L7 hot dipped galvanized threaded rods shall be installed at each of the main girders. Each rod shall be installed with hot dipped galvanized washers and nuts. Each threaded rod shall be one continuous piece with couplers not allowed. The nuts utilized on the threaded rods shall be ASTM A194 Grade 4 heavy hex nuts. The washers utilized on the threaded rods shall be ASTM F436 circular Type 1 hardened steel washers. A seismic restraint system shall be installed at each main girder.

ASTM A325 bolts with diameters of 1 inch shall be utilized to attach the seismic brackets to the existing main girders. The nuts utilized with the A325 bolts shall be ASTM A194 Grade 4 heavy hex nuts. The washers utilized with the bolts shall be ASTM F436 circular Type 1 hardened steel washers.

The seismic brackets shall be hot dipped galvanized according to ASTM A123, with a minimum coating grade of 50.

The high strength threaded rods, bolts, washers, and nuts shall be hot dipped galvanized according to ASTM A153 and ASTM Z329.

Brackets and connections are 125% stronger than the restrainer rod.

Approximate length of 1/2" φ threaded rod is ±11'-6".

Contractor to field verify dimensions prior to fabrication.

SEISMIC RESTRAINER NEAR PIERS 11 & 15

DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM

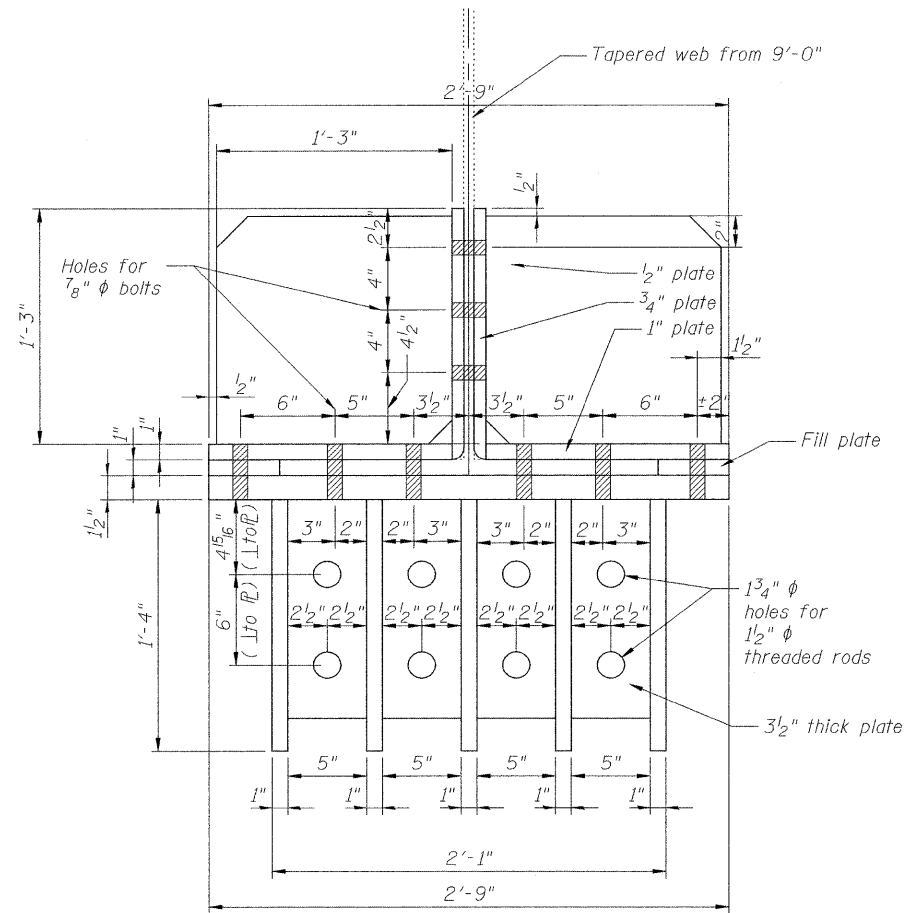
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 29 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	42
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

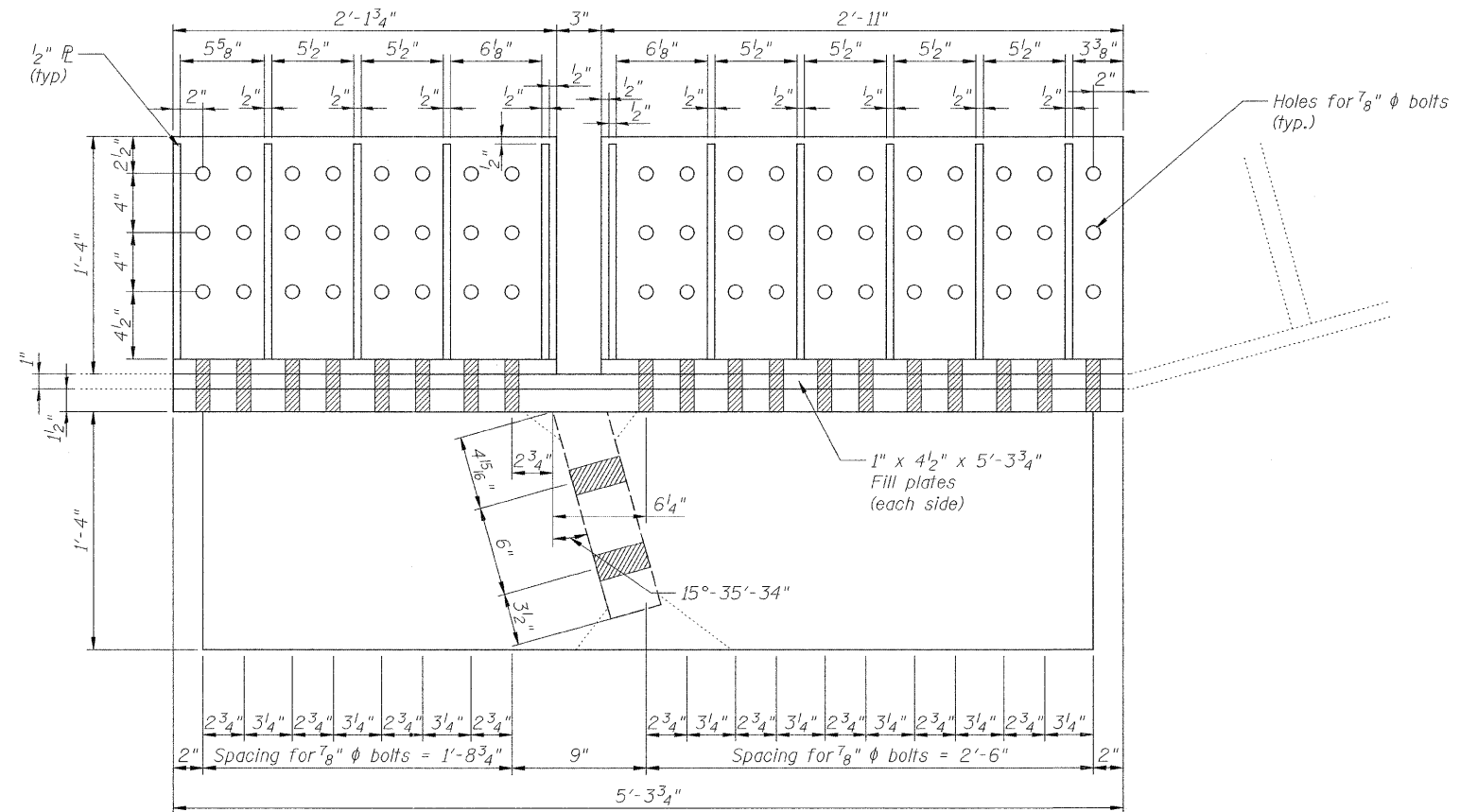
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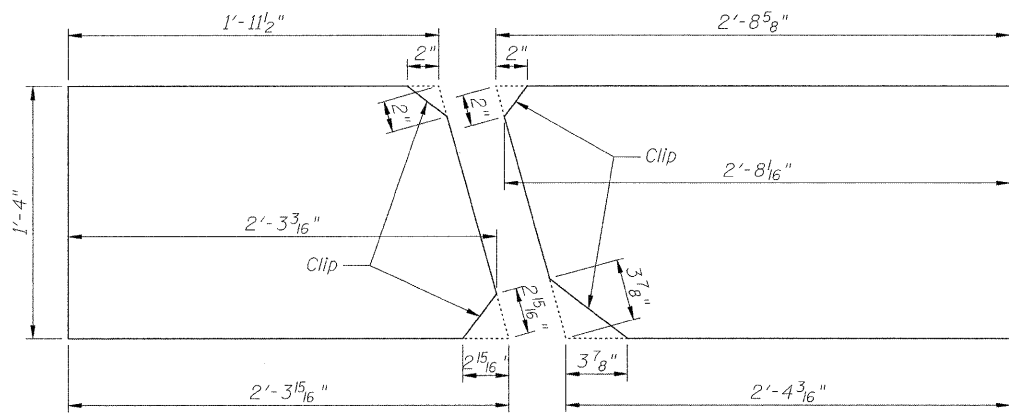
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



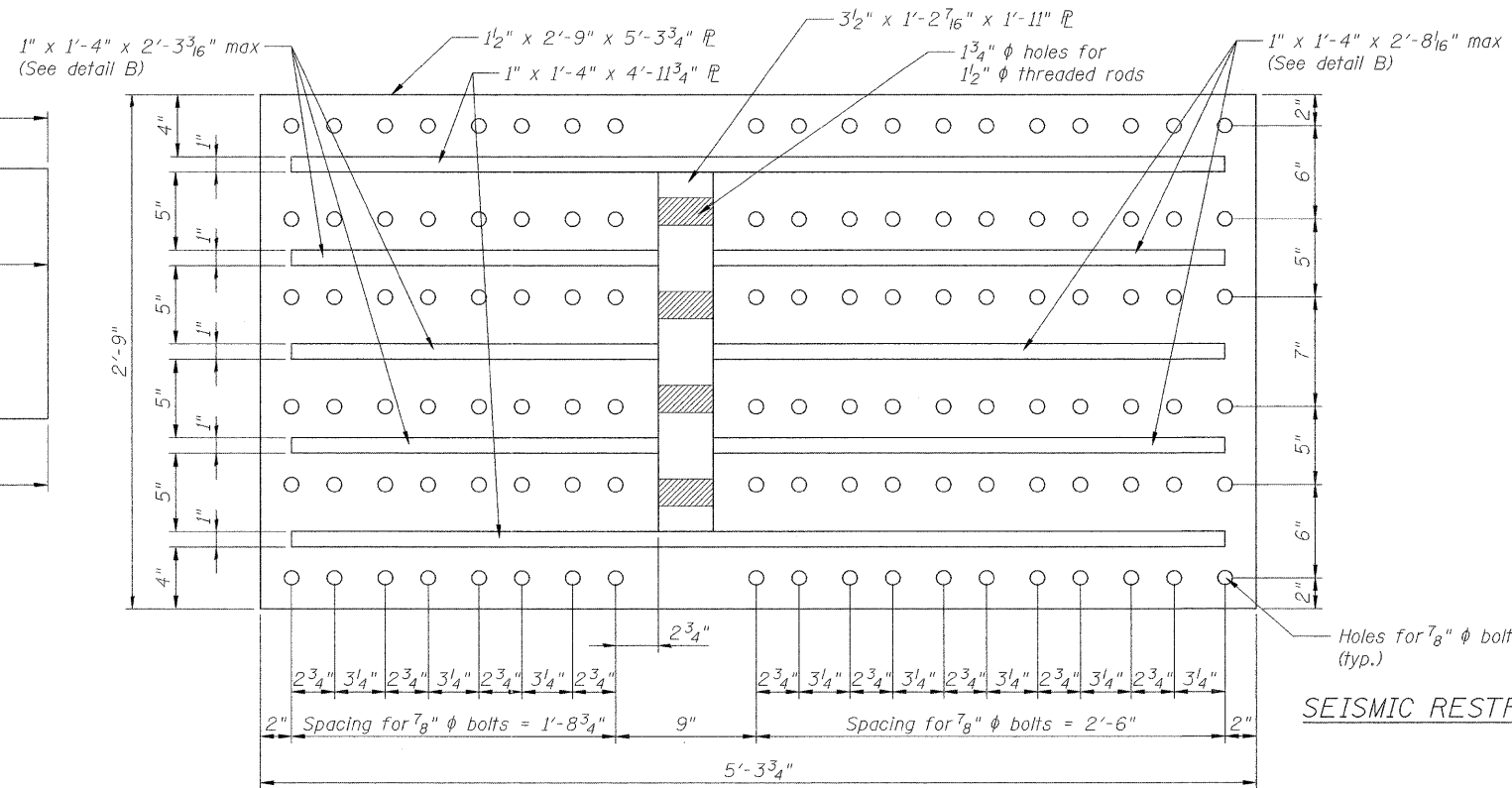
END VIEW



ELEVATION



DETAIL B



PLAN

SEISMIC RESTRAINER NEAR PIERS 19 & 24 - 2

DETAILS FOR SEISMIC BRACKET "E"

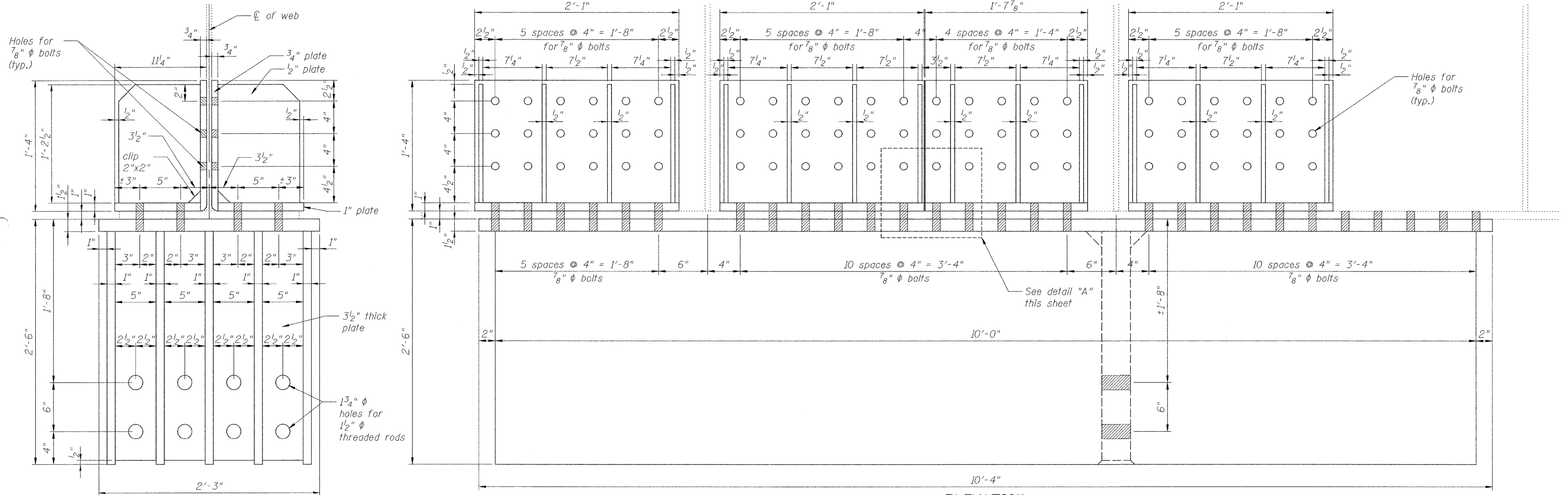
DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM



**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

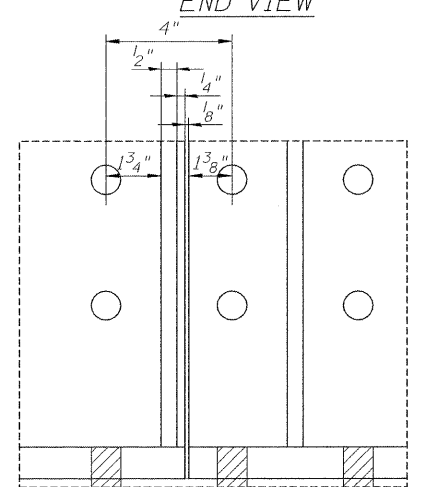
SHEET NO. 31 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	44
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

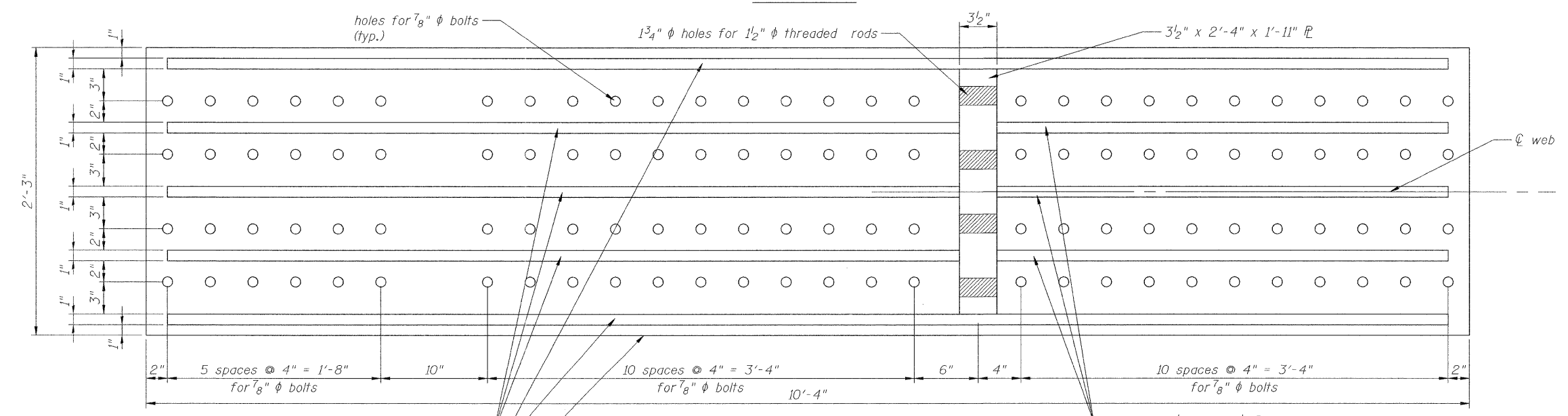


END VIEW

ELEVATION



DETAIL "A"



PLAN

SEISMIC RESTRAINER NEAR PIERS 19 & 24 - 3

1" x 2'-4 1/2" x 6'-2 1/4" PL  
1" x 2'-4 1/2" x 10'-0" PL  
1 1/2" x 2'-3" x 10'-4" PL  
Existing bottom flange is 22"

DETAILS FOR SEISMIC BRACKET "F"

DESIGNED	NJM
CHECKED	RM
DRAWN	JVK
CHECKED	NJM

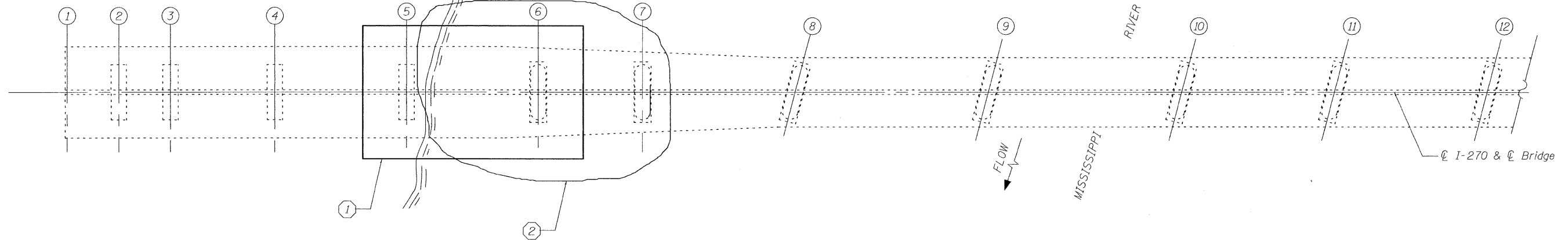
**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 32 36 SHEETS	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 45
	CONTRACT NO. 76A92				
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

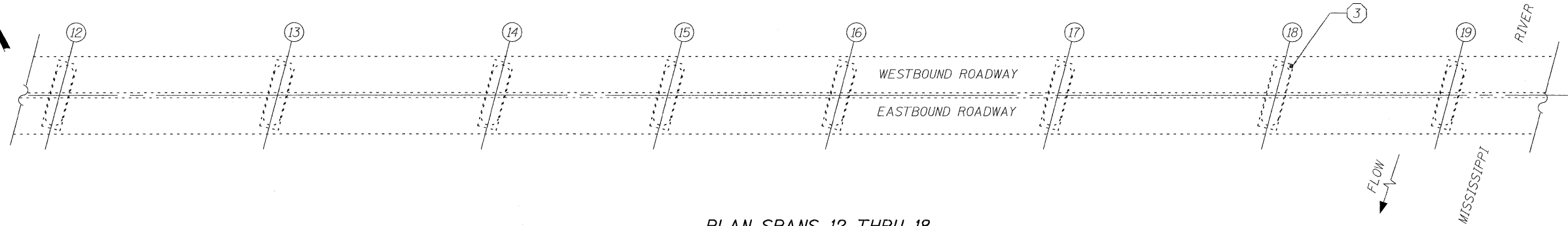
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Approximate location of bank



PLAN SPANS 1 THRU 11



PLAN SPANS 12 THRU 18

Notes:

Area for LOG JAM REMOVAL is approximate.

It is up to the contractor to verify the quantity of debris at each pier as this will change over time due to fluctuating water levels and current.

Actual area of LOG JAM REMOVAL to be determined in field by the Engineer.

This work will be measured and paid for at the contract unit price of lump sum for LOG JAM REMOVAL, which price shall include all labor, materials and equipment necessary to remove accumulated debris around the piers.

Spans not shown require no improvements unless dictated by the Engineer.

- ① Scour Protection, see Sht 34 of 36.
- ② Log Jam Removal, approx. area = 32,000 Sq. Ft. (Based upon the BCR dated 12/14/2007)
- ③ Seal course repair, see Sht 35 of 36.

BILL OF MATERIAL

Item	Unit	Total
Log Jam Removal	L Sum	1

SUBSTRUCTURE PLAN (PARTIAL)  
STRUCTURE NO. 060-0035

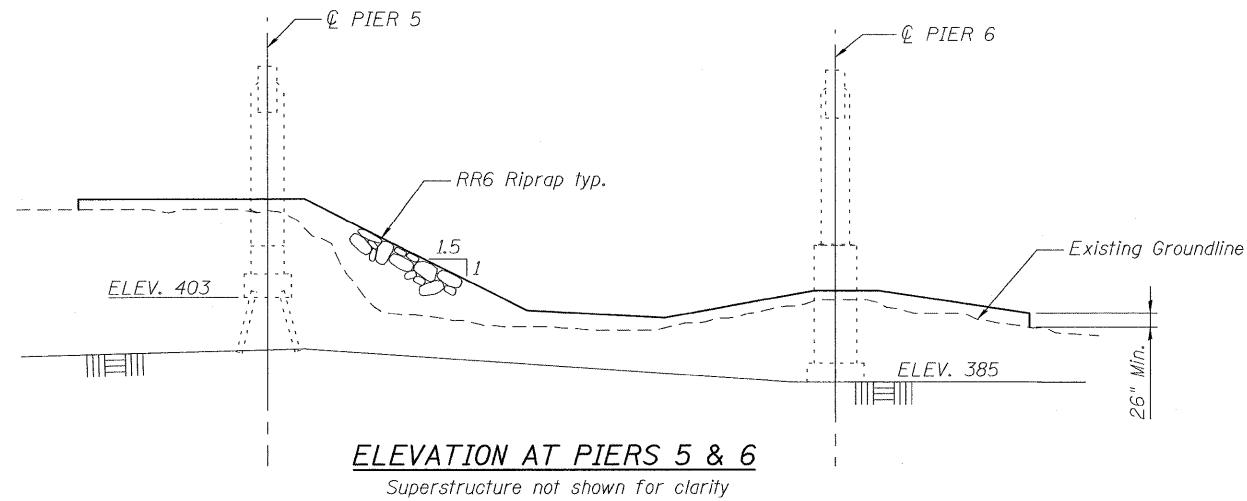
DESIGNED	TSB
CHECKED	TMB
DRAWN	TSB
CHECKED	TMB



**PARSONS**  
400 WOODS MILL RD. SOUTH, SUITE 330  
CHESTERFIELD, MO. 63017  
PHONE: 314.434.2900

SHEET NO. 33 36 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	46
FED. ROAD DIST. NO. 8 ILLINOIS			FED. AID PROJECT		
CONTRACT NO. 76A92					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



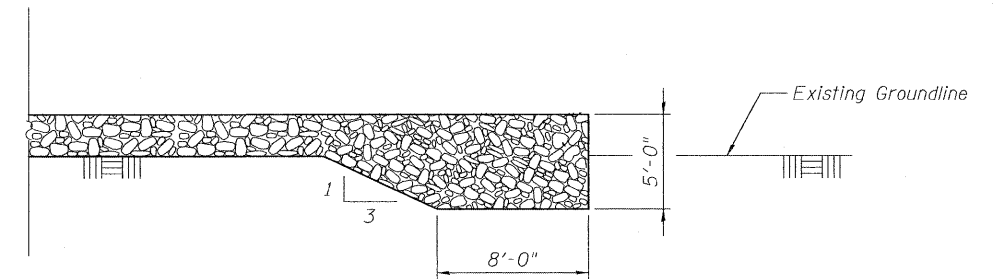
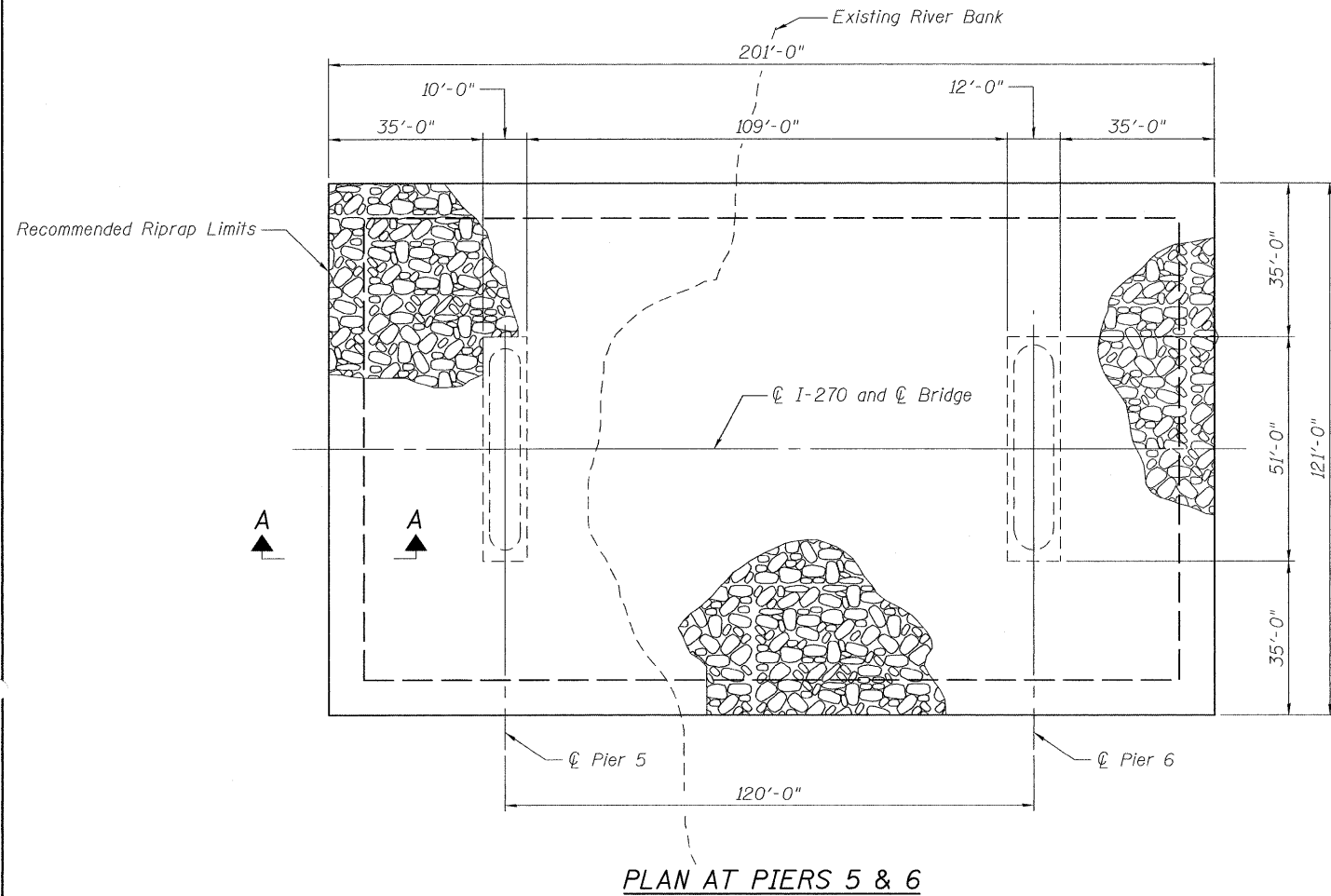
Notes:

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Contractor shall exercise care when placing riprap adjacent to the piers. Any damage done to the structure shall be repaired at the Contractor's expense.

Debris shall be removed from around the piers prior to placement of riprap.

Riprap shall be placed as directed by the Engineer.



**BILL OF MATERIAL**

Item	Unit	Quantity
Stone Dumped Riprap, Class A6	Ton	11,200

**SCOUR PROTECTION PIERS 5 & 6**  
**STRUCTURE NO. 060-0035**

DESIGNED	TSB
CHECKED	TMB
DRAWN	TSB
CHECKED	TMB



SHEET NO. 34	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
36 SHEETS	270	60B-I-8	MADISON	49	47
			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:

Remove unstable material along bottom of undermined area prior to bag placement and filling with grout.

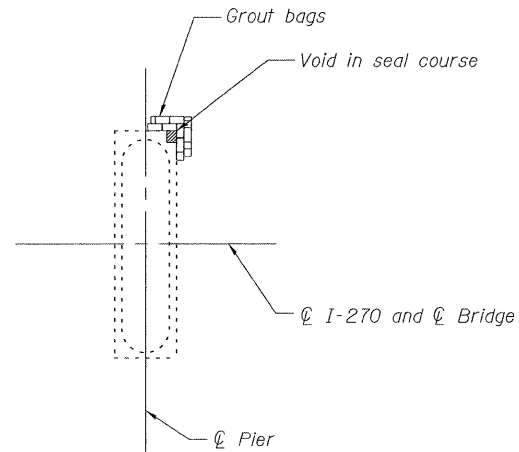
Stack grout bags along face of pier in front of undermined area. Bags stacked in successive rows and tiers shall be staggered.

Once vent/fill pipes have been installed and bags are filled, pump grout into the undermined area until material appears in the top of adjacent vent pipes. Cut or remove the vent/fill pipes and flush with the top of the bags after pumping operation is complete.

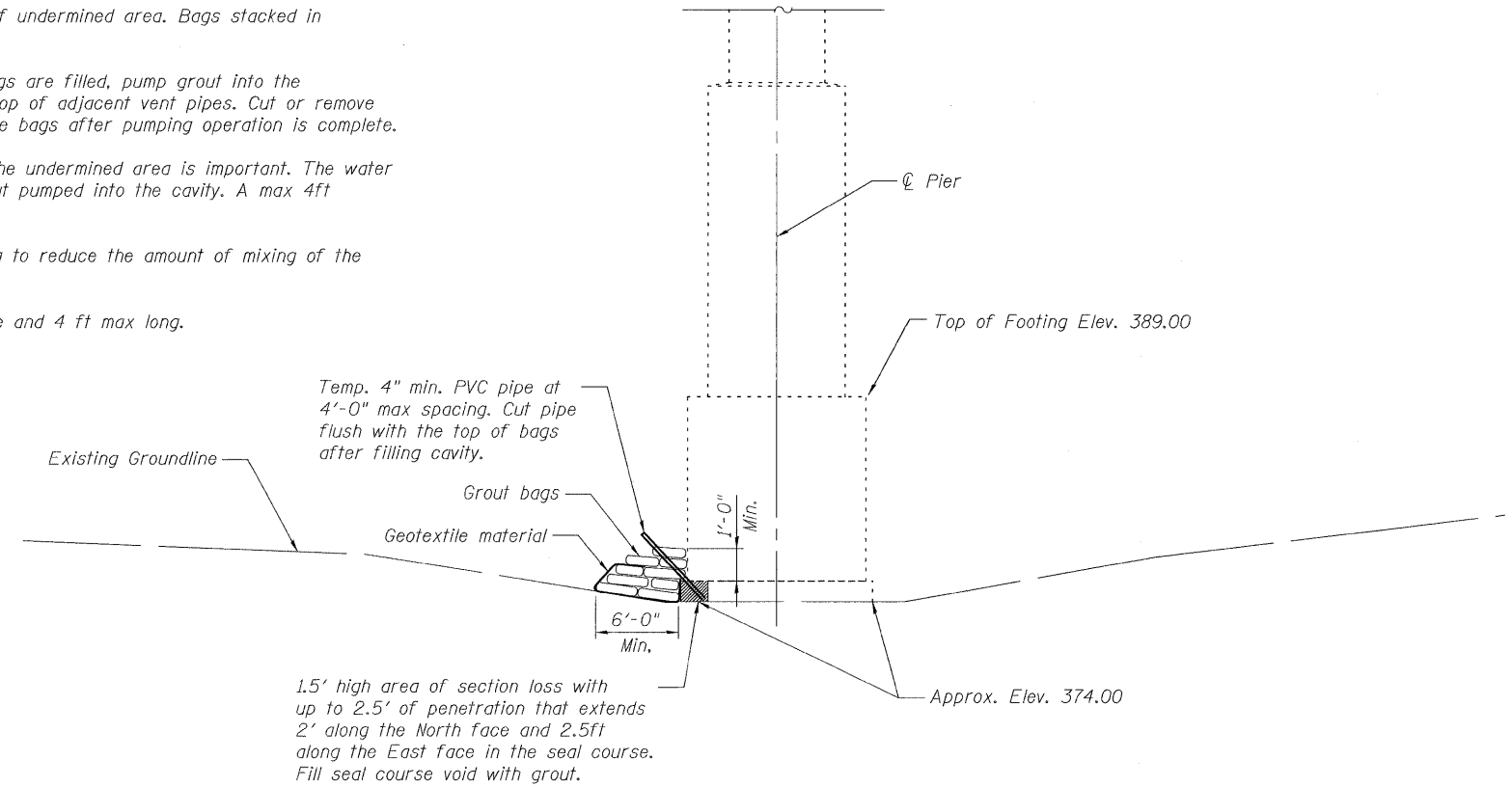
Adequate venting of water to be displaced in the undermined area is important. The water must be able to escape when displaced by grout pumped into the cavity. A max 4ft spacing of vent/fill pipes is recommended.

Keep nozzle buried in the grout during pumping to reduce the amount of mixing of the grout and water to be displaced.

All bags shall be 1 ft max thick, 3 ft max wide and 4 ft max long.

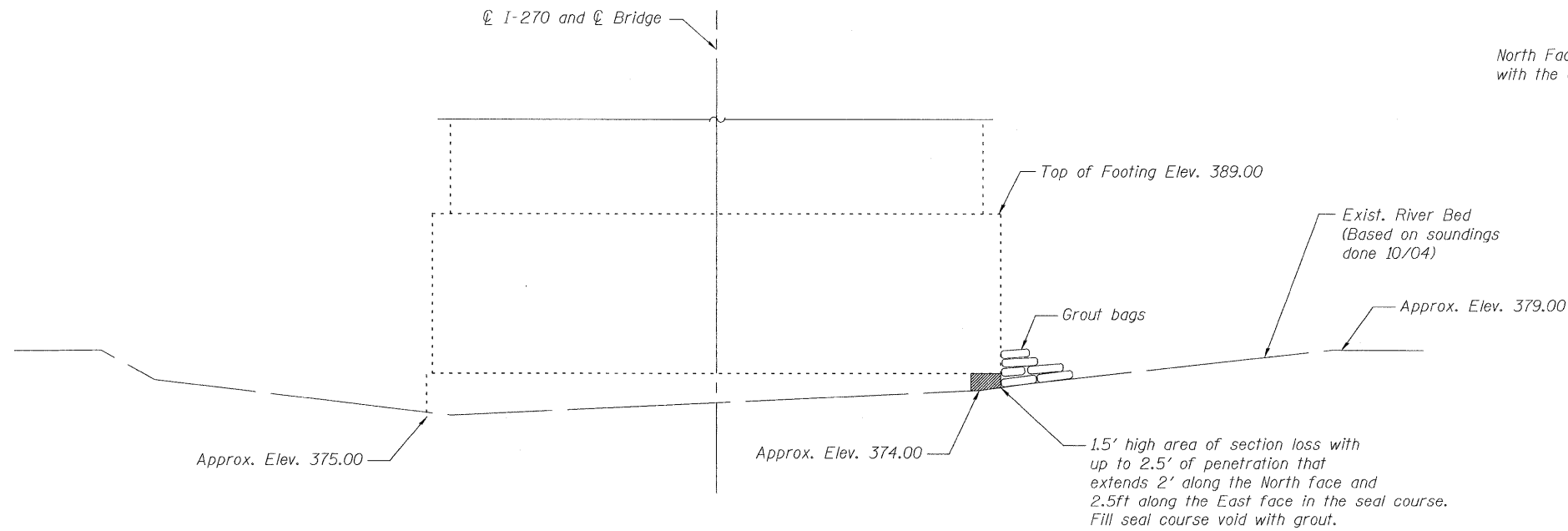


PLAN AT PIER 18



SECTION

North Face shown, South Face similar with the exception of the void and grout bags.



ELEVATION

East Face shown, West Face similar with the exception of the void and grout bags.

Notes:

Area of section loss based on Under Water Inspection. See sht 36 of 36.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to minimal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Contractor shall submit a complete repair plan 3 weeks prior to starting this work for approval by the Engineer.

SCOUR PROTECTION PIER 18  
STRUCTURE NO. 060-0035

**BILL OF MATERIAL**

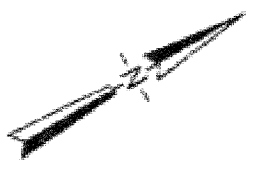
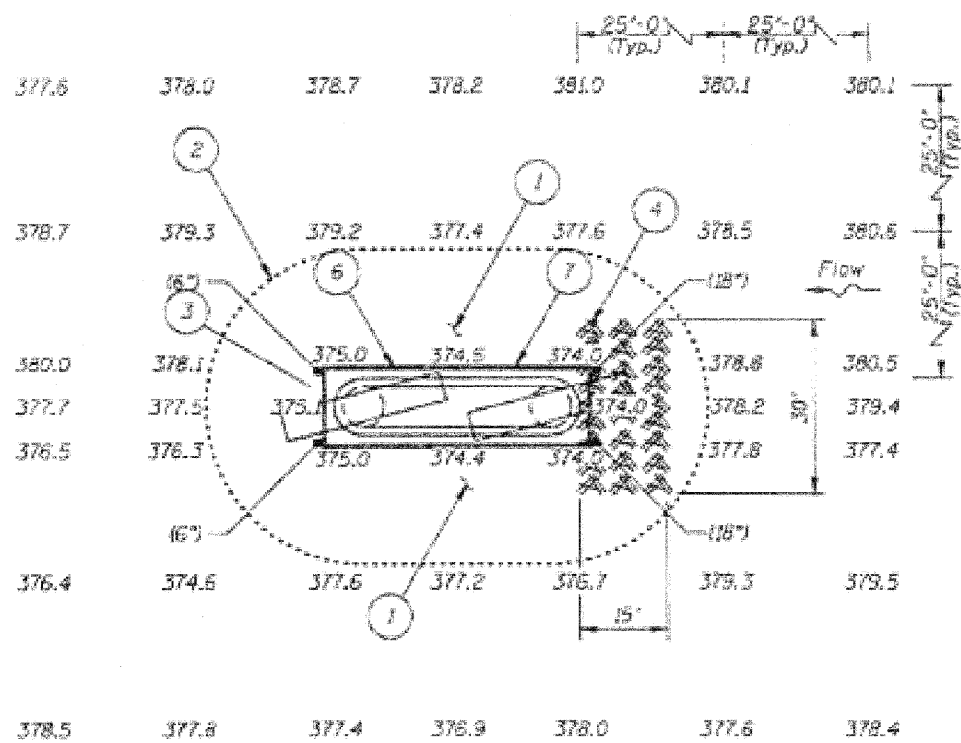
Item	Unit	Quantity
Substructure Repairs (Grout Bags)	L SUM	1

SHEET NO. 35	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	270	60B-I-8	MADISON	49	48
36 SHEETS	CONTRACT NO. 76A92				
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

DESIGNED	TMB
CHECKED	TSB
DRAWN	JGC / TMB
CHECKED	TSB

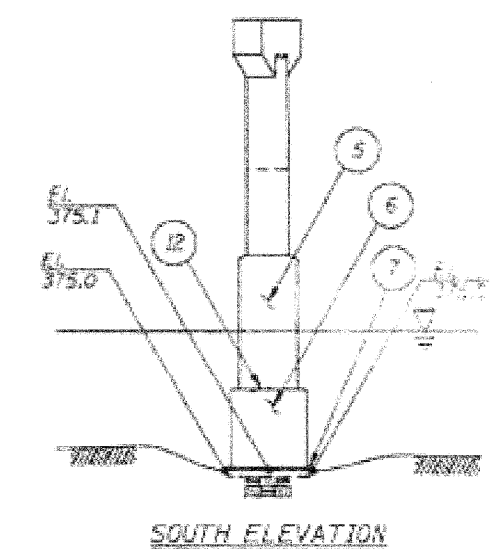
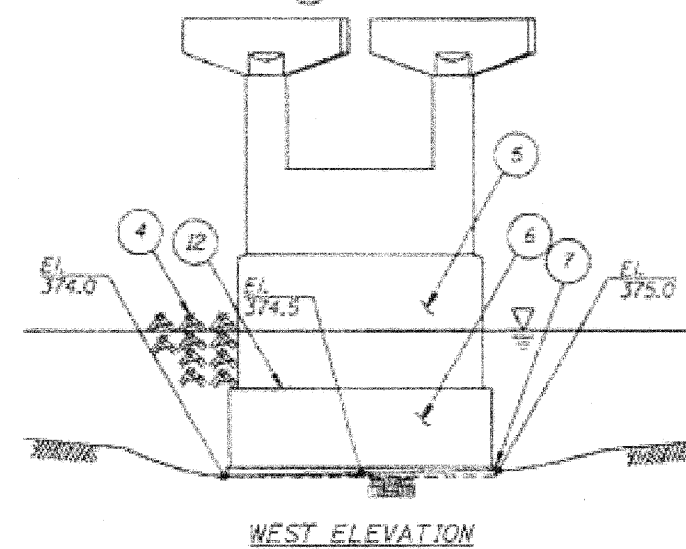
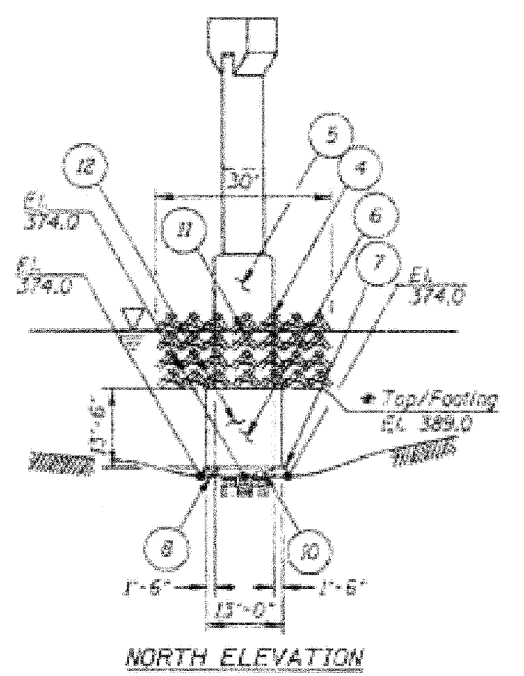
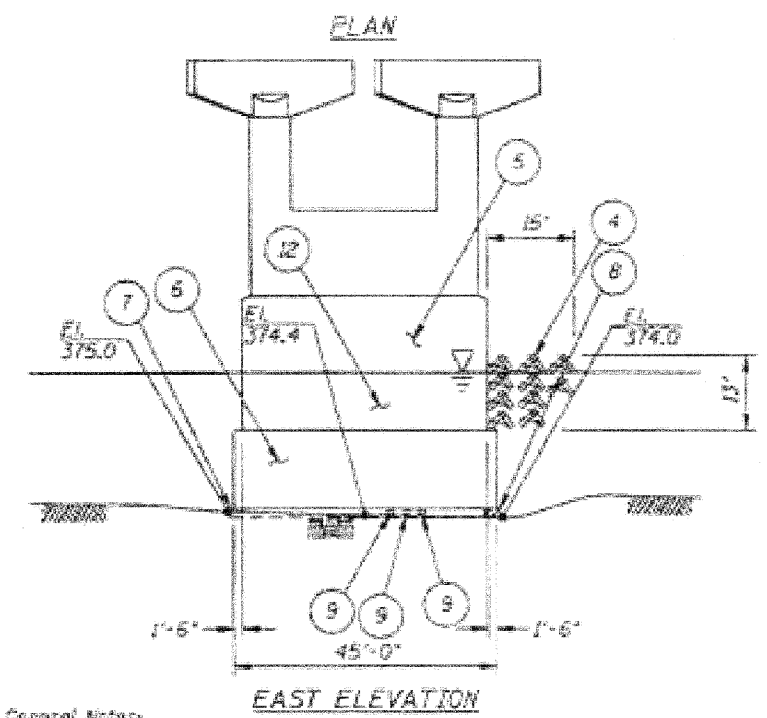






FOR INFORMATION ONLY

- Inspection Notes:**
- 1 The channel bottom material around Pier 18 typically consisted of bedrock with no probe rod penetration possible. Along the east side of the pier, the bedrock channel bottom was rough and irregular while along the west side, the channel bottom was smoother.
  - 2 25-foot-radius, 4-foot-deep scour depression located around the entire perimeter of the pier.
  - 3 Sand infilling with up to 6 inches of probe penetration located on the channel bottom around the downstream end of the pier.
  - 4 Light accumulation of timber debris extending out from the upstream nose in a 15-foot-radius. The debris consisted of branches and trees up to 1.5 feet in diameter and extended from 3 feet above to 10 feet below the waterline.
  - 5 Random hairline map cracking above the waterline on all faces of the pier.
  - 6 13.5-foot-high footing completely exposed around the entire perimeter of the pier.
  - 7 6-inch-wide concrete step extending from the bottom of the footing into the channel with vertical exposures as noted. Random timber formwork was found along the faces of the step in various locations. The surface of the concrete step was typically rough but sound.
  - 8 1.5-foot-high area of section loss with up to 2.5 feet of penetration located on the 6-inch-wide concrete step. The section loss extended for 2 feet along the north face and for 2.5 feet along the east face.
  - 9 Area of section loss on the 6-inch-wide concrete step, measuring 1 foot long by 2 inches high, with up to 4 inches of penetration.
  - 10 Several areas of section loss on the upstream vertical face of the 6-inch-wide concrete step, measuring 6 inches in diameter, with up to 3 inches penetration.
  - 11 Band of light scaling with less than 1/4 inch of penetration extending from 1 foot above to 3 feet below the waterline on the upstream nose of the pier.
  - 12 No damage on the pier wall or the footing.



- General Notes:**
1. At the time of inspection on October 12, 2004 the waterline was located approximately 13 feet below the top of the pier wall at the downstream nose of Pier 24. This corresponds to a waterline elevation of 399.0 based on the 1961 design plans.
  2. Soundings indicate the channel bottom elevation at the time of inspection and are measured in feet.

\* Elevation per design drawing provided by IDOT.

- LEGEND:**
- 393.5 Channel Bottom Elevation
  - ④ Indicates Inspection Note Number
  - Pier Founded on Rock
  - Channel Bottom Material
  - (4) Vertical Exposure of 6-inch-wide Step Face

<b>ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	
I-270 OVER MISSISSIPPI RIVER STRUCTURE NUMBER: 060-0035	
<b>PIER 18 INSPECTION NOTES</b>	
Drawn By: DR	Date: OCT., 2004
Checked By: ART	Scale: 1"=20'
Code: 39790012	Figure No.: 19

SHEET NO. 36	F.A.I. RTE. 270	SECTION 60B-I-8	COUNTY MADISON	TOTAL SHEETS 49	SHEET NO. 49
36 SHEETS			CONTRACT NO. 76A92		
FED. ROAD DIST. NO. 8 ILLINOIS FED. AID PROJECT					

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